

LEVEL 2  
S.S.

AD

# AMSA

TECHNICAL REPORT NO. 284

## THE PRONE PROTECTED POSTURE



DAVID T. KILMINSTER  
GARY L. HOLLOWAY

AUGUST 1980

APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED.

THIS DOCUMENT IS BEST QUALITY PRACTICABLE.  
THE COPY FURNISHED TO DDC CONTAINED A  
SIGNIFICANT NUMBER OF PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.

U. S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY  
ABERDEEN PROVING GROUND, MARYLAND

80 10 1 058

DDC FILE COPY

AD 1108 (D) 1-75

### **DISPOSITION:**

Destroy this report when no longer needed. Do not return it to the originator.

### **DISCLAIMER**

The findings in this report are not to be construed as an official Department of the Army position unless so specified by other official documentation.

### **WARNING**

Information and data contained in this document are based on the input available at the time of preparation. The results may be subject to change and should not be construed as representing the DARCOM position unless so specified.

### **TRADE NAMES**

The use of trade names in this report does not constitute an official endorsement or approval of the use of such commercial hardware or software. The report may not be cited for purposes of advertisement.

## **DISCLAIMER NOTICE**

**THIS DOCUMENT IS BEST QUALITY  
PRACTICABLE. THE COPY FURNISHED  
TO DTIC CONTAINED A SIGNIFICANT  
NUMBER OF PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.**

**UNCLASSIFIED**

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER Technical Report No. 284	2. GOVT ACCESSION NO. AD-A089 818	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) <b>THE PRONE PROTECTED POSTURE</b>	5. TYPE OF REPORT & PERIOD COVERED <b>Technical</b>	
7. AUTHOR(s) David T. Kilminster Gary L. Holloway	6. PERFORMING ORG. REPORT NUMBER	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Director US Army Materiel Systems Analysis Activity Aberdeen Proving Ground, MD 21005	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS DA Proj. # 1R765706M541	
11. CONTROLLING OFFICE NAME AND ADDRESS Commander US Army Materiel Development & Readiness Command 5001 Eisenhower Ave., Alexandria, VA 22333	12. REPORT DATE August 1980	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	13. NUMBER OF PAGES 124	
	15. SECURITY CLASS. (of this report) <b>UNCLASSIFIED</b>	
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release, distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Personnel Postures Prone Protected Posture Sequences TRAPS Prone Man		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The prone protected posture is defined as a prone man taking cover in, under, or beside some piece of equipment, a man-made feature, or a natural feature. The vulnerability of a prone protected man is less than that of a prone man but greater than that of a man crouching in a foxhole. The prone protected man is described by nine different functions representative of mechanized infantry, artillery, supply, and transportation personnel. Eight of these functions are combined by a weighting scheme based on the Soviet Army organization into one function. The resultant function is used to calculate some representative lethal areas.		

## CONTENTS

	<u>PAGE</u>
1. INTRODUCTION . . . . .	5
2. METHODOLOGY . . . . .	5
3. RESULTS . . . . .	23
4. CONCLUSIONS . . . . .	35
5. RECOMMENDATIONS . . . . .	36
REFERENCES . . . . .	37
APPENDIX A: PRESENTED AREAS OF BODY PART AREAS FOR THE PRONE PROTECTED MAN . . . . .	39
APPENDIX B: COM-GEOM BACKGROUND AND TARGET DESCRIPTIONS . . . . .	59
DISTRIBUTION LIST . . . . .	121

A checkmark is present in the checkbox next to "NTIS GRA&I".

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
ARPA OR/AF/DOE	
Dist	Spec 1
A	23
C	4

## LIST OF FIGURES

		<u>PAGE</u>
<u>Figure</u>		
1	Prone Man Between the Trails of a Towed Howitzer Top-View. . . . .	6
2	Prone Man Between the Trails of a Towed Howitzer Bottom and Side Views . . . . .	7
3	Prone Man Beside a Berm. . . . .	8
4	Prone Man Beside an Armored Vehicle - Side and Front Views. . . . .	9
5	Prone Man Beside a Log - Side and End Views. . . .	10
6	Prone Man Under a 2-1/2 Ton Truck - Side and Front View . . . . .	11
7	Prone Man Beside Two Layers of 55-Gallon Drums Top and End Views. . . . .	12
8	Prone Man in a Ditch - End and Top Views . . . .	13
9	Prone Man Under a Culvert Half - End View. . . .	14
10	Presented Areas for Prone Protected Personnel. . .	17
11	Presented Area Versus Elevation for the Candidate Weighting Functions. . . . .	22
12	Presented Area Versus Elevation No Terrain Shielding. . . . .	25
13	Expected Fractional Casualties ( $\bar{F}_C$ ) Versus Number of Volleys for a Towed Artillery Unit in Prepared and Unprepared Positions . . . . .	34

## THE PRONE PROTECTED POSTURE

### 1. INTRODUCTION

During the last two decades, a small but continuing effort has been directed toward the characterization and quantification of the postures assumed by troops when receiving fire. To date, three postures have been defined and quantified: standing, prone, and crouching in a foxhole. In 1976, AMSAA participated in the Troop Reaction and Posture Sequence (TRAPS) Test (Reference 1) to investigate the time sequence of postures that are assumed by troops under attack by artillery. Analysis of the test results (Reference 2) revealed that

"A significant portion of troops assume a prone protected posture which makes their vulnerability between that of a prone man and a man crouching in a foxhole."

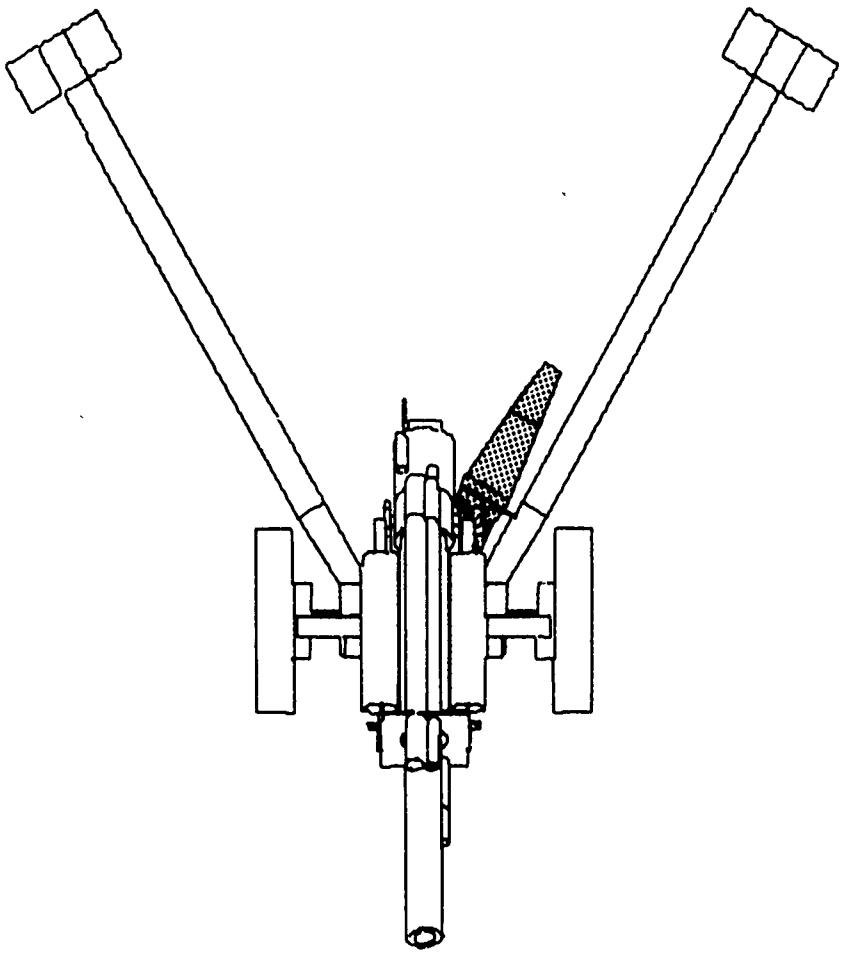
Table 1 presents the generalized posture sequence from Reference 2. It is important to note that, in unprepared positions, most of the men are in the prone protected posture after 2 seconds. One of the recommendations of Reference 2 was that prone protected postures be defined, the presented areas quantified, and a weighted presented area function be developed for use in lethality computations. The purpose of this report is to document the results of a study designed to carry out this recommendation. It should be noted that the data presented in this report is in English units, rather than SI units, because the computer code that would utilize these data are written for English units only.

### 2. METHODOLOGY

The first step required in this study was to characterize the prone protected posture. Basically, a man in the prone posture differs from a man in the prone protected posture in that a man assuming the prone posture will fall to the ground at random and is shielded only by the natural terrain roughness, while a man assuming the prone protected posture will make a conscious effort to maximize his protection by seeking out equipment or natural terrain features that minimize his exposure. During the TRAPS test, a number of photographs were taken of troops in various prone protected positions. These photographs, along with suggestions from others and some common sense, resulted in nine positions that were felt to be representative of the prone protected posture. These positions were modeled by use of combinatorial geometry techniques and the presented area of the prone protected man as a function of azimuth and elevation angle was calculated. Drawings of these positions are presented in Figures 1 through 9. Note that the man is lying face down with his arms behind his head and his legs together.

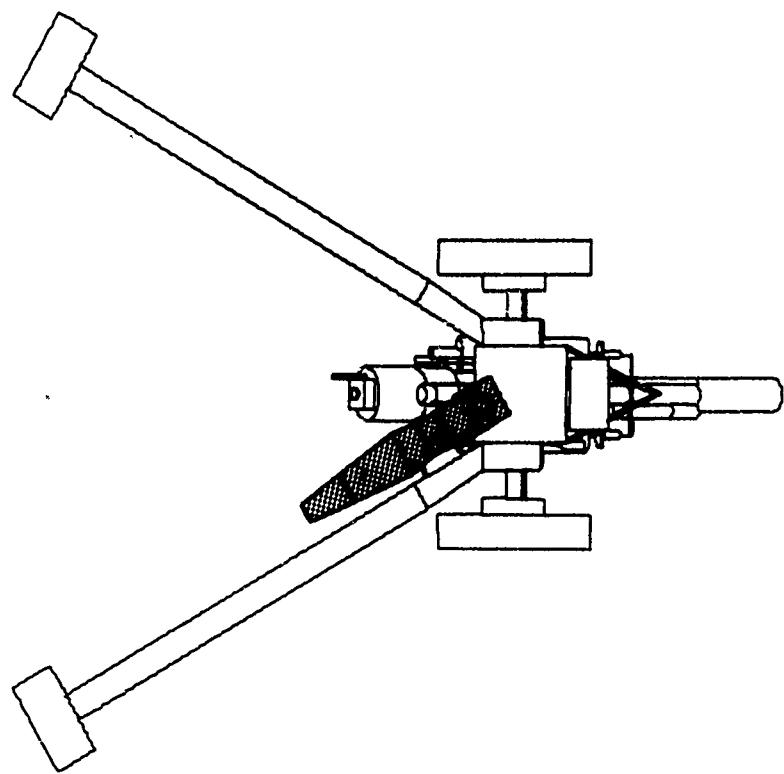
<sup>1</sup>Troop Reaction and Posture Sequence; USACDEC Experiment FC032, June 1976, US Army Combat Developments Experimentation Command, FT Ord, CA 93941.

<sup>2</sup>King, B.F.; Analysis of the Troop Reaction and Posture Sequence (TRAPS) Field Test (U); Technical Report No. 235, June 1978, US Army Materiel Systems Analysis Activity, Aberdeen Proving Ground, MD 21005, CONFIDENTIAL report.

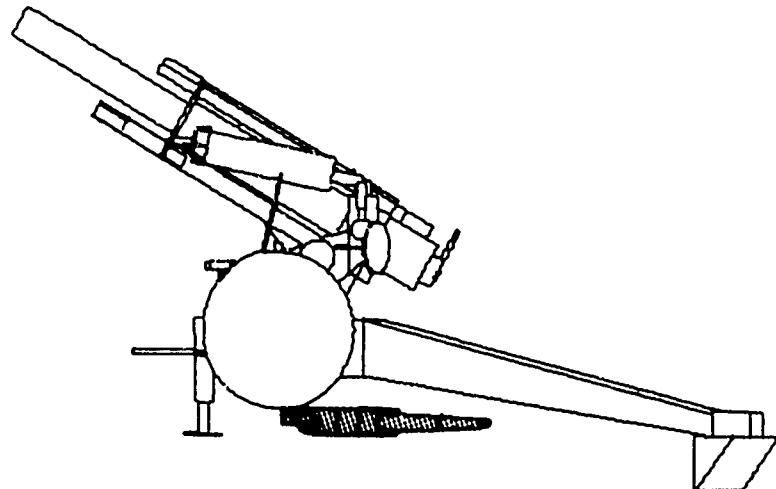


M114 HOWITZER (TOWED)  
AZIMUTH 90.0 ELEVATION 90.0  
SCALE 0 50.00

FIGURE 1 PRONE MAN BETWEEN THE TRAILS OF A TOWED VEHICLE - TOP-VIEW



M114 HOWITZER (TOWED)  
AZIMUTH -90.0 ELEVATION -90.0  
SCALE 60.00



M114 HOWITZER (TOWED)  
AZIMUTH 90.0 ELEVATION 0.0  
SCALE 60.00

FIGURE 2 PRONE MAN BETWEEN THE TRAILS OF A TOWED HOWITZER - BOTTOM AND SIDE VIEWS

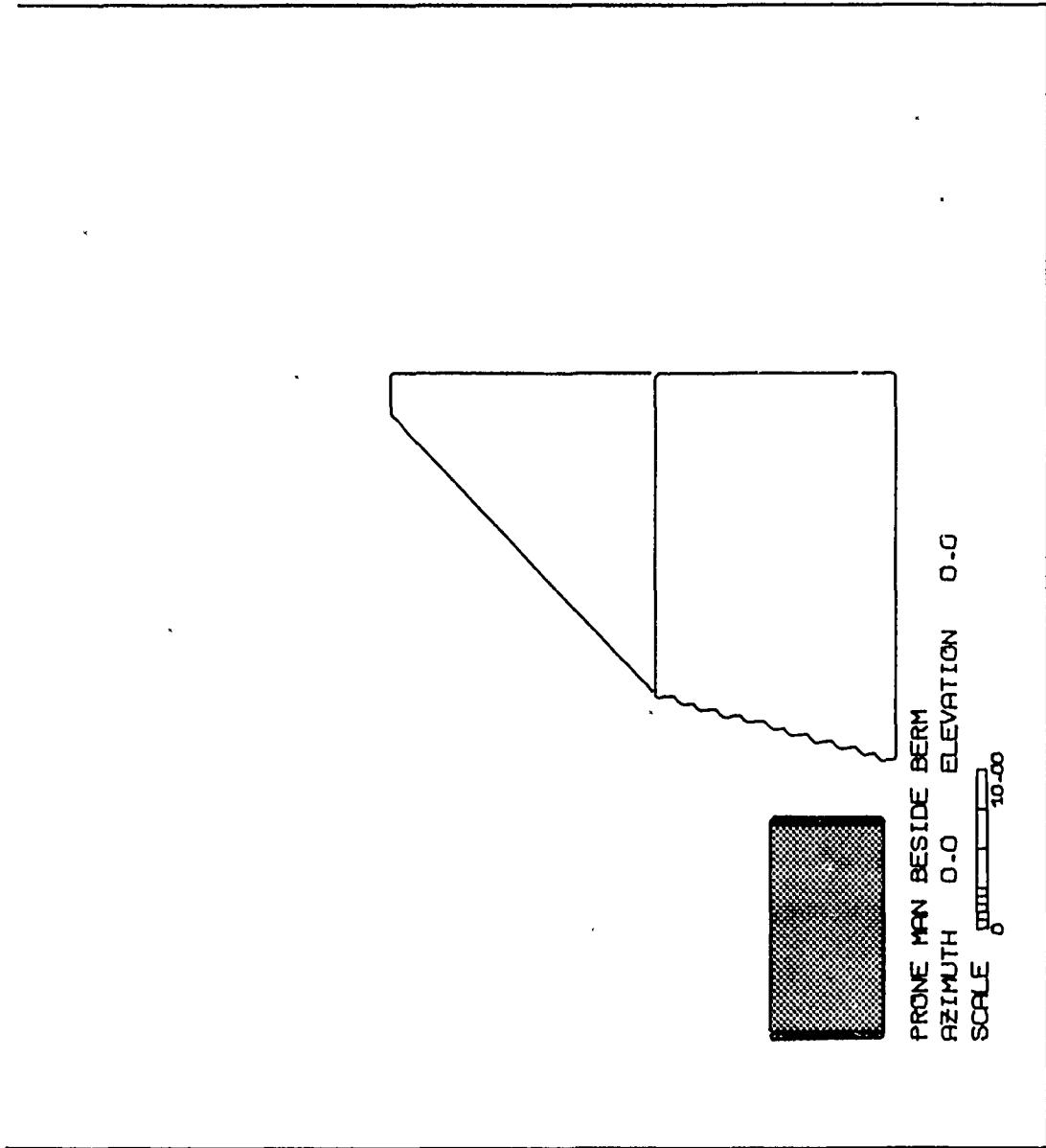


FIGURE 3 PRONE MAN BESIDE A BERM

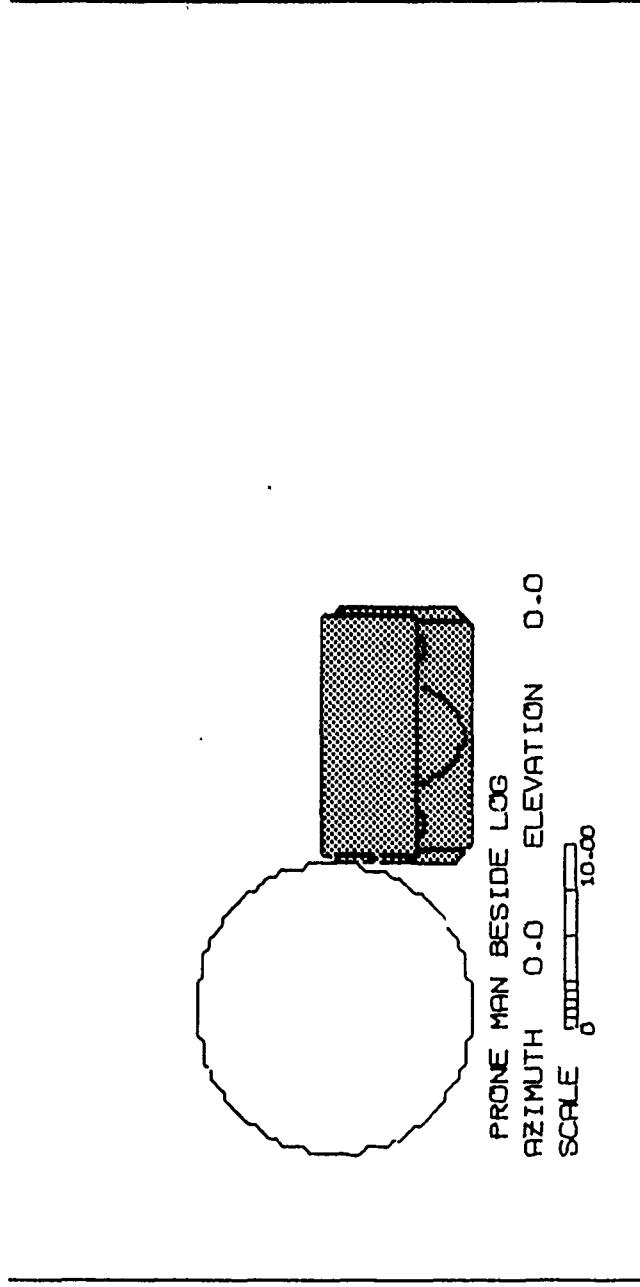
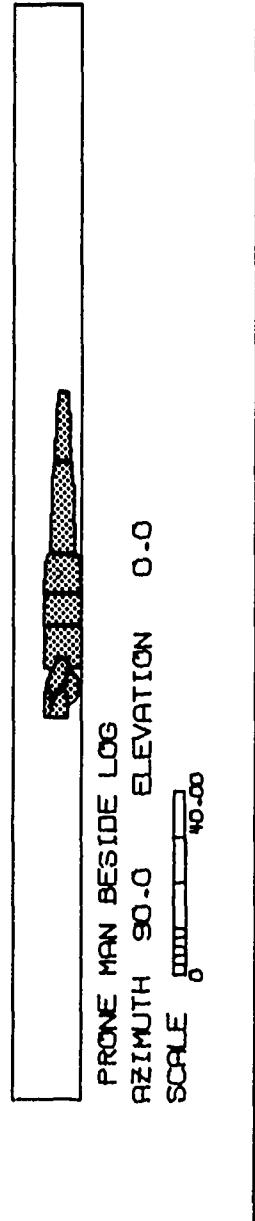
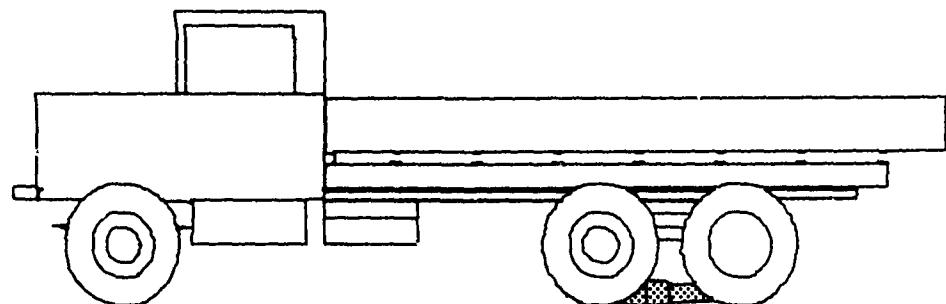


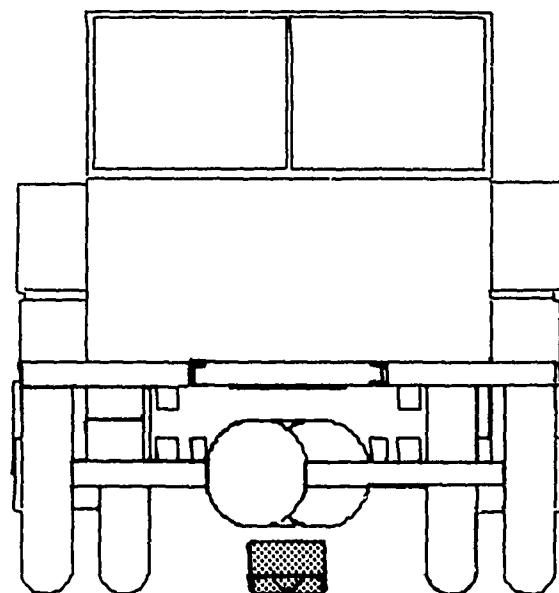
FIGURE 5 PRONE MAN BESIDE A LOG - SIDE AND END VIEWS



PRONE MAN UNDER M36 2-1/2 TON TRUCK

AZIMUTH 90.0 ELEVATION 0.0

SCALE 0 60.00

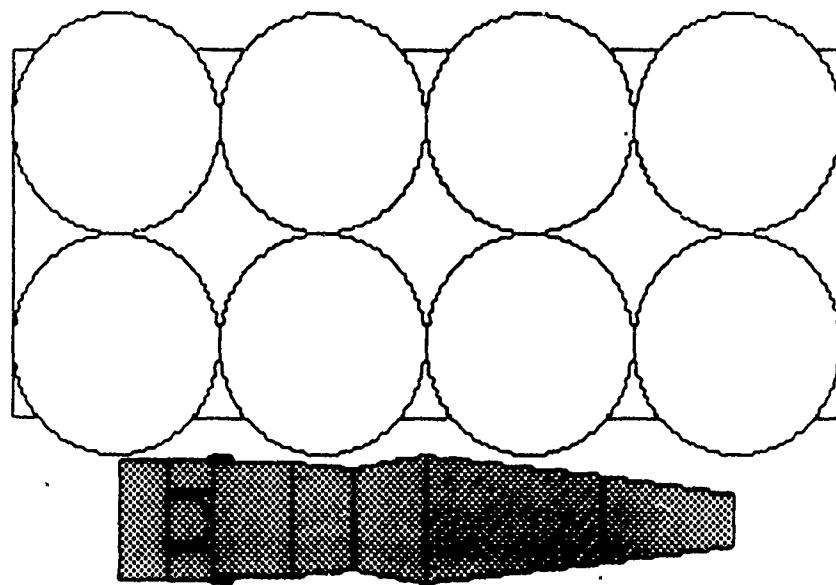


PRONE MAN UNDER M36 2-1/2 TON TRUCK

AZIMUTH 0.0 ELEVATION 0.0

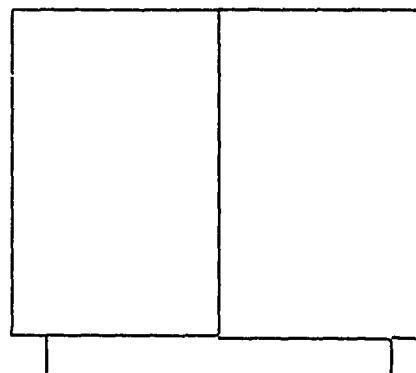
SCALE 0 30.00

FIGURE 6 PRONE MAN UNDER A 2 1/2-TON TRUCK - SIDE AND FRONT VIEW



PRONE MAN BESIDE TWO LAYERS OF DRUMS  
AZIMUTH 90.0 ELEVATION 90.0

SCALE 0 20.00



PRONE MAN BESIDE TWO LAYERS OF DRUMS  
AZIMUTH 0.0 ELEVATION 0.0

SCALE 0 20.00

FIGURE 7 PRONE MAN BESIDE TWO LAYERS OF 55-GALLON DRUMS - TOP AND END VIEWS

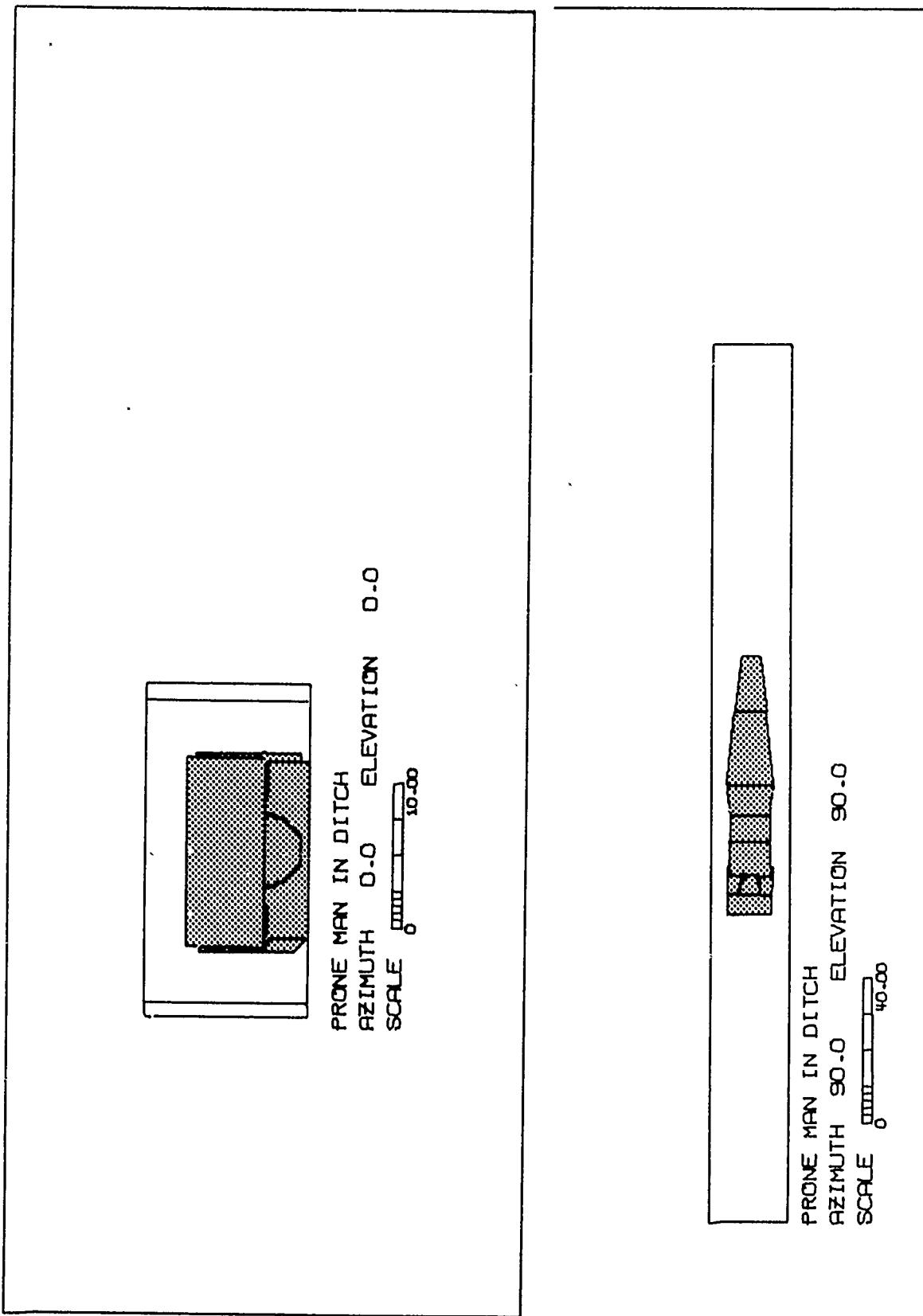


FIGURE 8 PRONE MAN IN A DITCH - END AND TOP VIEWS

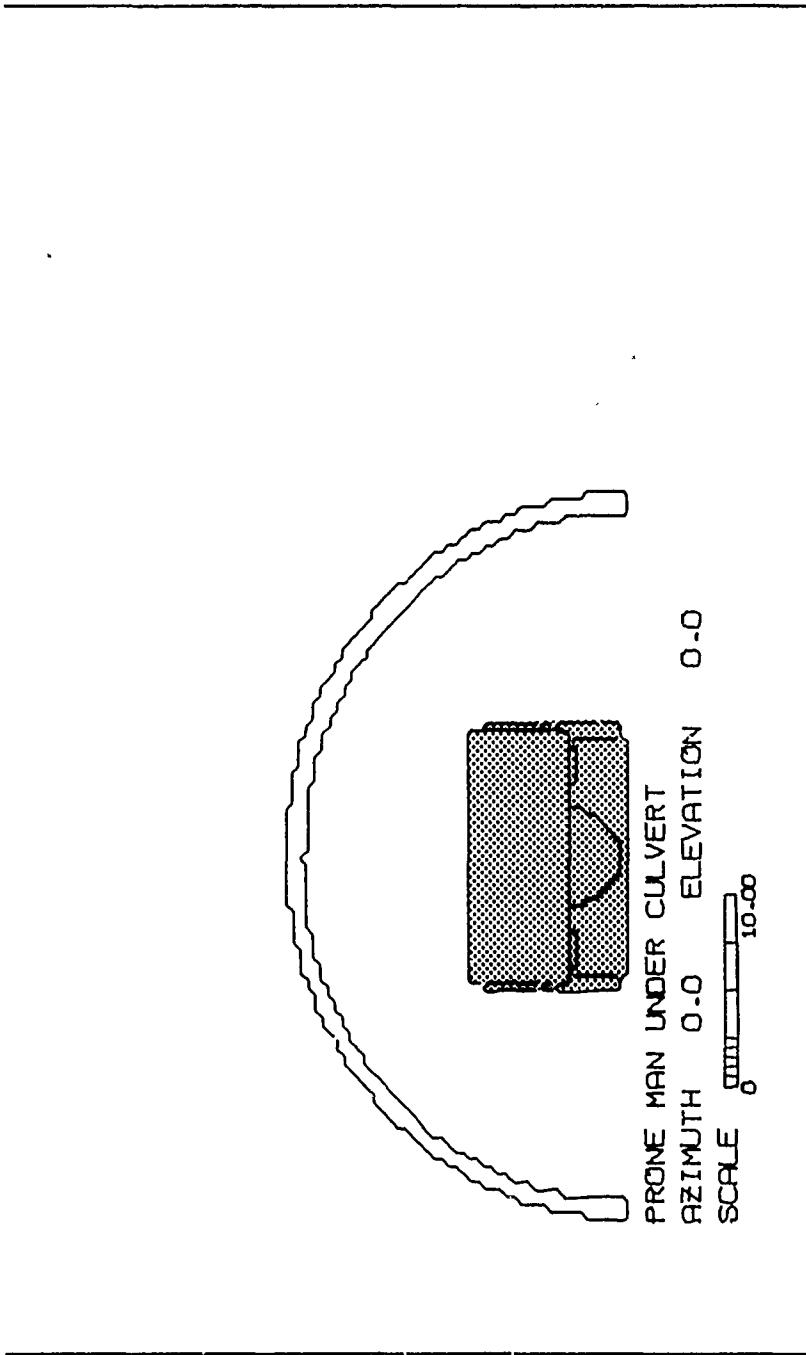


FIGURE 9 PRONE MAN UNDER A CULVERT HALF - END VIEWS

TABLE 1 CONDENSED GENERALIZED POSTURE SEQUENCES (IN PERCENT)

<u>Unprepared Positions</u>			
	<u>Standing</u>	<u>Prone</u>	<u>Prone Protected</u>
$\leq 2$ Sec	45.	40	15
2-4 Sec	--	20	80
$> 4$ Sec	--	5	95

<u>Prepared Positions</u>				
	<u>Standing</u>	<u>Prone</u>	<u>Prone Protected</u>	<u>Foxhole</u>
$\leq 2$ Sec	45	25	15	15
2-4 Sec	--	10	35	55
4-10 Sec	--	--	10	90
$\geq 10$ Sec	--	--	5	95

The presented areas of the prone man, by body parts, in each of the nine positions were calculated by use of the GIFT combinatorial geometry code (Reference 3). The results of these calculations are presented in Appendix A. Table 2 and Figure 10, for each of these positions, contain the presented areas as a function of elevation summed over body part and averaged over azimuth.

In order for this new posture to be used with the current posture sequencing routines, these nine positions must be combined in some way to produce one Presented-Area-Versus-Elevation curve. Four methods of doing this were considered:

1. A unit-type average.
2. A weighted average based on some T&E.
3. A weighted averaged based on some acquired-target list.
4. A simple average.

If methods 1 through 3 are to be used, the nine positions must be assigned to different types of units; e.g., a man prone between the trails of a howitzer would be seen only in an artillery unit while a man prone in a ditch would probably be seen in all types of units. Four types of units were selected as representative of

<sup>3</sup>Bain, L.L. and M.J. Reisinger; GIFT Code User Manual; Volume I, Introduction and Input Requirements; BRL R-1802, July 1975, AD B0060037L, US Army Ballistics Research Laboratory, Aberdeen Proving Ground, MD 21005.

TABLE 2 PRESENTED AREAS OF PRONE PROTECTED POSITIONS IN SQUARE FEET

Elev. Deg	In Open Area	Beside Berm Area	Under Truck Area	Beside Log Area	In Ditch Area	Under Culvert Area	Beside 1 Drum Area	Beside 2 Drums Area	Beside Howitzer Area	Beside ICV Area
0.0	2.22461	0.00000	1.01367	1.21289	0.00000	.50391	1.24414	1.24414	2.14258	1.41992
.1	2.25000	0.00000	1.03711	1.22852	0.00000	.52344	1.26172	2.15820	1.44531	
.2	2.26172	0.00000	1.02734	1.23828	0.00000	.51367	1.26953	2.18164	1.46484	
.3	2.23633	0.00000	1.01367	1.21094	0.00000	.50781	1.23828	2.12500	1.42383	
.4	2.27539	0.00000	1.02148	1.27344	0.00000	.53125	1.29883	2.19140	1.47461	
.5	2.23633	0.00000	.99609	1.24023	0.00000	.50391	1.26562	2.14843	1.43750	
.6	2.26562	0.00000	.98047	1.25195	0.00000	.50000	1.27929	2.17187	1.43945	
.7	2.26367	0.00000	1.01953	1.24023	0.00000	.52344	1.27734	2.13672	1.42383	
.8	2.25195	0.00000	.97265	1.23047	0.00000	.50976	1.26367	2.14844	1.42187	
.9	2.25390	0.00000	.98633	1.23633	0.00000	.50976	1.26953	2.12695	1.41406	
1.0	2.27539	0.00000	.97851	1.23437	0.00000	.50781	1.26172	2.15429	1.41797	
2.0	2.29687	0.00000	.92969	1.26562	.02734	.52539	1.30078	2.11133	1.40234	
3.0	2.36328	0.00000	.85742	1.30078	.08984	.53711	1.32812	2.11328	1.42969	
4.0	2.37890	.05078	.80664	1.30664	.14844	.53125	1.33594	2.04883	1.41015	
5.0	2.42383	.44922	.76367	1.34375	.21094	.55078	1.38086	2.04101	1.42773	
6.0	2.47656	.79102	.76758	1.38672	.25195	.59179	1.42383	2.01758	1.45312	
7.0	2.54687	1.08008	.75781	1.41406	.28516	.60351	1.45703	2.00586	1.44726	
8.0	2.57226	1.13477	.73047	1.43164	.33398	.59179	1.46679	1.96094	1.44140	
9.0	2.65820	1.16992	.71484	1.48633	.37500	.60547	1.52734	1.96679	1.49023	
10.0	2.70312	1.17383	.66601	1.53906	.42969	.61719	1.57812	1.93359	1.53711	
15.0	3.05859	1.55859	.66016	1.75781	.83984	.60351	1.78906	1.78906	1.90429	1.74414
20.0	3.41406	1.93750	.66211	2.10547	.30859	.56445	2.02929	1.90820	1.99023	
25.0	3.78515	2.22461	.67383	2.53711	.89453	.55273	2.30078	1.97851	2.25195	
30.0	4.08789	2.60937	.57226	2.94140	.249609	.50781	2.50391	1.94531	2.45703	
35.0	4.40039	3.24414	.23047	3.40234	3.11914	.48047	2.70117	2.70117	1.99609	2.64658
40.0	4.62109	3.89453	.07226	3.80078	3.64258	.44531	.283789	2.83789	2.03125	2.78320
45.0	4.93750	4.54687	.03320	4.23828	4.16601	.42773	.3.06641	.2.14062	3.00977	
50.0	5.13867	4.91797	.00195	4.57812	4.62891	.36719	3.17969	3.17969	2.18555	3.12500
55.0	5.31250	5.22656	0.00000	4.86719	5.01758	.34961	3.32617	3.29101	2.16211	3.24023
60.0	5.46680	5.41992	0.00000	5.12890	5.33594	.27930	3.56250	3.40820	2.13086	3.36523
65.0	5.56445	5.54687	0.00000	5.31250	5.51758	.23828	3.91797	3.45703	2.24609	3.46484
70.0	5.66406	5.65625	0.00000	5.50195	5.68750	.18555	4.39648	3.55664	2.50391	3.80664
75.0	5.67968	5.67187	0.00000	5.56836	5.65820	.13086	4.86719	3.68554	2.81250	4.27539
80.0	5.70117	5.68945	0.00000	5.67383	5.64844	.09375	5.31641	4.36719	3.12695	4.83008
85.0	5.62890	5.61914	0.00000	5.62500	5.60351	.03320	5.53125	5.19531	3.25195	5.30859
90.0	5.55078	5.54492	0.00000	5.54883	5.56250	0.00000	5.55078	5.55078	3.26953	5.54883

1. PRONE PERSONNEL BESIDE 55 GAL DRUMS (2-HIGH)
2. PRONE PERSONNEL BESIDE 55 GAL DRUMS (1-HIGH)
3. PRONE PERSONNEL UNDER TWO CULVERT HALVES
4. PRONE PERSONNEL IN A OPEN DITCH
5. PRONE PERSONNEL IN THE OPEN
6. PRONE PERSONNEL BESIDE A 16-INCH LOG
7. PRONE PERSONNEL UNDER A 2 1/2 TON TRUCK
8. PRONE PERSONNEL BESIDE A BERM
9. PRONE PERSONNEL BESIDE AN ARMORED VEHICLE
10. PRONE PERSONNEL BETWEEN A TOWED HOWITZER TRAILS

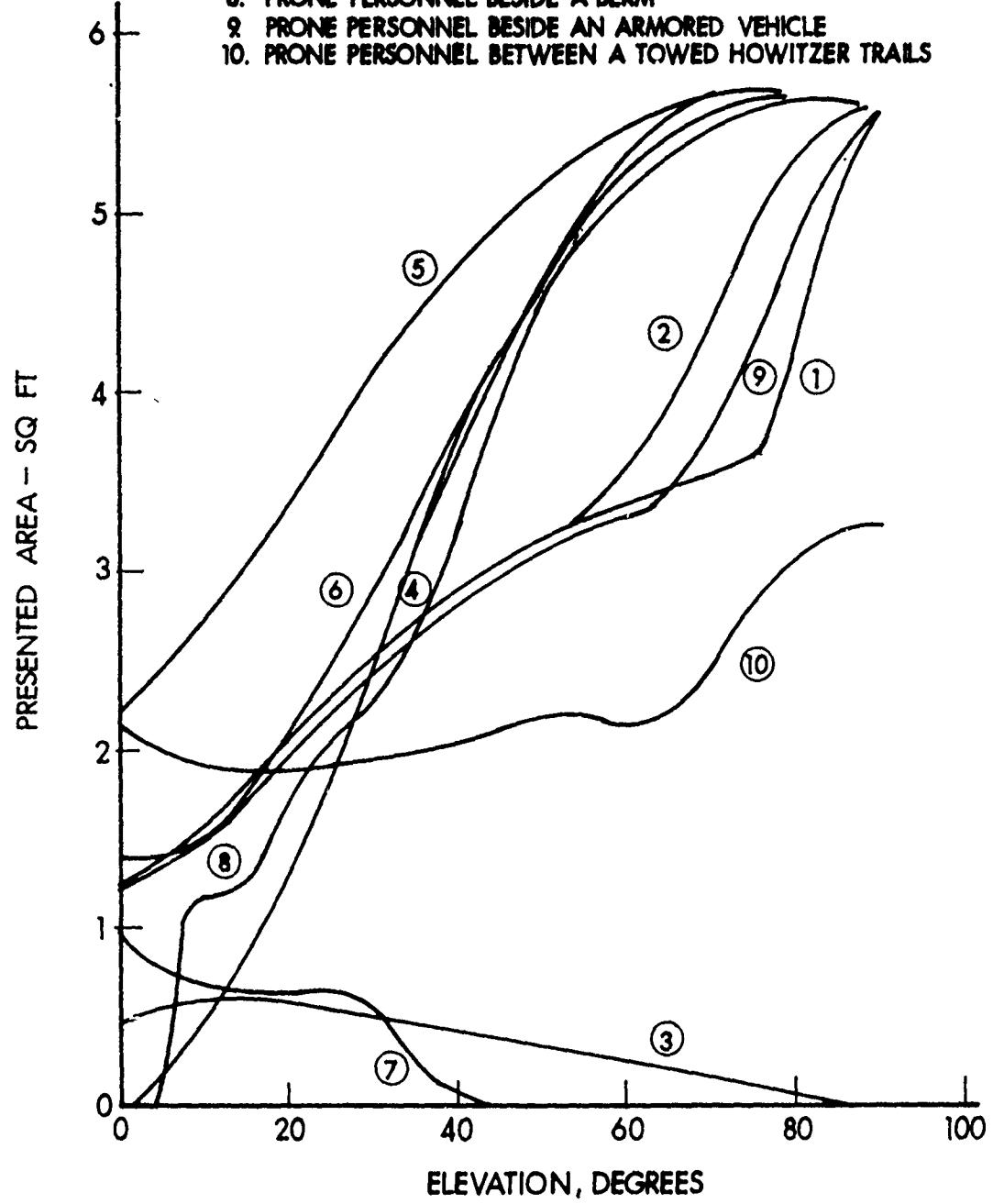


Figure 10. Presented Areas for Prone Protected Personnel.

typical targets utilizing the prone protected posture: supply, mechanized infantry, artillery, and transportation. Assignment of the nine positions to these unit types is presented in Table 3. Also included in this table is an evaluation of whether each position would apply to US or Soviet troops or to both.

In order to determine a weighting function based on a target scenario, an artillery acquired-target list from the SCORES Sequence 2A/86 scenario (Reference 4) was analyzed. The targets abstracted from this list to which the prone protected posture would be appropriate were:

Type	Number	Fraction
Artillery	2949	.57
Mortar	538	.10
Antitank	330	.06
Mech. Infantry	1382	.27
	5199	

Unfortunately, there were no targets that could be allocated to the supply or transportation categories.

The TO&E of the Soviet Army (Reference 5) was analyzed to determine the number of men in the four unit types listed above. Only those units that could be expected to appear as artillery targets were included in the unit type totals. The results of this count are shown in detail in Table 4 and are summarized in the following tabulations:

Type	Number	Fraction
Artillery	1893	.20
Mech. Inf.	4821	.52
Supply	850	.09
Transportation	1746	.19
	9310	

Comparison of the first three methods of combining the various prone protected positions results in the following:

	Supply	Mech Inf	Artillery	Trans
Unit Type Average	.25	.25	.25	.25
Scenario Weighting	0	.43	.57	0
TO&E Weighting	.09	.52	.20	.19

<sup>4</sup>CACDA Manual War Gaming Report, Corps Defense/Delay (U) Standard Scenario for Combat Developments (U); Europe I, Sequence 2A, ACN 21972, November 1975, US Army Combined Arms Center, FT Leavenworth, KS, SECRET NOFORN report.

<sup>5</sup>Organization and Equipment of the Soviet Army; HB 550-2, July 1978, Combined Arms Combat Developments Activity, FT Leavenworth, KS.

TABLE 3 ASSIGNMENT OF POSITIONS TO UNIT TYPE

<u>Position</u>	<u>US*</u>	<u>Soviet*</u>	<u>Org Type*</u>
1. 2 Drums	Y	Y	S
2. 1 Drum	Y	Y	S
3. Culvert Half	Y	N	I
4. Open Ditch	Y	Y	A,I,S,T
5. Open	N/A	N/A	N/A
6. Along Log	Y	Y	A,I
7. Under Truck	Y	Y	S,T
8. Along Berm	Y	Y	A,I
9. Beside ICV	Y	Y	I
10. Between Howitzer Trails	Y	Y	A

\*S = Supply, I = Mech Inf, A = Artillery, T = Transportation,  
Y = Yes, N = No

These three weighting schemes, plus the fourth, were used to calculate weighting factors for the eight Soviet positions shown in Table 3. The fourth scheme was to ignore the unit type assignments in Table 3 and to apply an equal weight to each position. The results are as follows:

Position	Unit Type	TO&E	Weight Scenario	Unit	Avg
Two-Drums	S	.025	0	.071	.125
One-Drum	S	.025	0	.071	.125
Ditch	A,I,S,T	.276	.25	.286	.125
Log	A,I	.199	.25	.143	.125
Truck	S,T	.077	0	.143	.125
Berm	A,I	.199	.25	.143	.125
ICV	I	.144	.11	.071	.125
Howitzer	A	.055	.14	.071	.125

The presented area functions that result from the use of these candidate weighting schemes are shown in Figure 11. It is important to note that most of the contribution to lethal areas comes from that part of the function below 30 degrees and that, in this region, the four functions are close together.

For purposes of the remaining analysis, the TO&E weighting scheme was selected as having the most widespread validity for both surface-to-surface and air-to-surface weapons.

TABLE 4. DISTRIBUTION OF SOVIET PERSONNEL IN SELECTED CATEGORIES BASED ON  
TO&E in HB 550-2

	<u>S</u>	<u>I</u>	<u>A</u>	<u>T</u>	
Tank Div					
Motor Transport Bn				217	
Arty Reg.			246		198
Rkt Lnchr Bn					
Tank Reg				162	
Motor Transport					
Supply & Service	36				
Tank Bn					
Supply & Maint	306				
Motor Rifle Reg		12			
Supply Plt					54
Motor Transport					
Howitzer Bn			270		
Antitank Btry			57		
Motorized Rifle Bn (3)			891		
	354	948	516	631 = 2449	9763 Total
Motorized Rifle Div					
Ind Tank Bn					
Supply & Maint	34				
Tank Reg					
Supply & Service	12				54
Motor Transport					
Arty Reg			246		
Rkt Lnchr Bn				198	
Antitank Bn		51			
Motor Transport Bn				217	
Motor Rifle Reg					
Supply & Maint (Tk Bn)	306				
Supply & Service	36				
Motor Transport				162	
Howitzer Bn			810		
Antitank Btry		171			
Motor Rifle Bn					
Mortar Btry		432			
Antitank Plt		162			
Supply & Maint	108				
Motor Rifle Co			2673		
	496	3489	1056	631 = 5672	12825 Total

TABLE 4 - continued

	<u>S</u>	<u>I</u>	<u>A</u>	<u>T</u>
Airborne Div				
Howitzer Bn			321	
MRL Bn				267
Transport Bn				217
Airborne Reg				
Mortar Btry		49		
Antitank Btry		50		
Airborne Bn			20	
Mortar Btry			25	
Antitank Btry				240
Parachute Co (3)	—	384	321	484 = 1189
				8473 Total
Grand Totals	850	4821	1893	1746 = 9310
	.09	.52	.20	.19

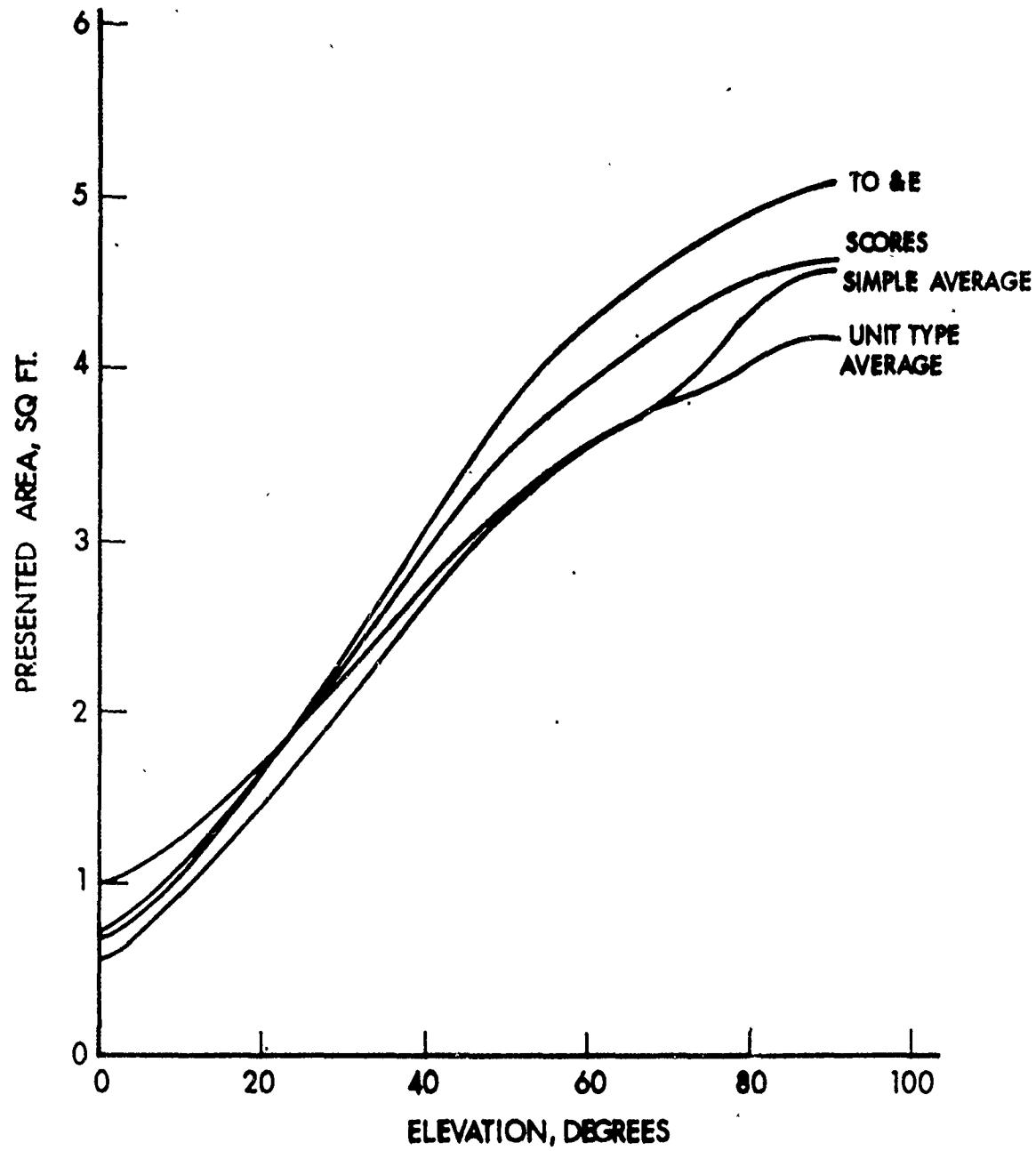


Figure 11. Presented Area vs Elevation for the Candidate Weighting Functions.

### 3. RESULTS

The data for each prone protected position function was multiplied by the appropriate weighting factor and the whole summed by elevation to produce one composite prone protected posture function. This final function is tabulated in Table 5 and presented graphically in Figure 12. The functions for standing, prone, and crouching in a foxhole are also shown for comparison.

All of the above data were generated with the assumption that this prone man and his protections were placed on a flat plane. Such is not the case in the real world. The terrain of the battlefield contains bumps, holes, and undulations that absorb fragments and result in a reduction in the presented area of target personnel. Reference 6 contains a concise discussion of the methodology used to generate the shielding functions that accomplish this reduction in presented area. The fractional reductions in the presented area for the ranges and heights of burst used in the JMEM computer program for calculating munitions effectiveness against personnel (Reference 7) are presented in Table 6 while the corresponding ranges for these data are shown in Table 7. The presented areas for the prone protected posture for these same ranges and heights of burst are presented in Table 8.

The ultimate test of a function such as this one is whether lethal areas calculated with it are consistent with lethal areas calculated for the other three postures. However, a question can be raised as to (1) whether the weighting factors should be applied to each of the prone protected position functions and a lethal area calculated from the composite function or (2) should lethal areas be calculated for each prone protected position function and then the weighting factors applied to these lethal areas. In order to answer this question and determine the consistency of the resulting lethal areas, a series of lethal area calculations was done for each individual function and for the composite function by use of the program described in Reference 8. The results of these calculations, which are presented in Table 9, show that there is no significant difference between the two methods. It has been suggested that Posture 7, Prone Personnel Under a 2-1/2 Ton Truck (see Figure 10), should not be included in the composite prone protected function since it differs radically from the other postures. Lethal areas were calculated with a composite function that did not include this posture and compared to the recommended function. There was no significant difference between the two sets of lethal areas.

---

<sup>6</sup>Target Vulnerability (U); FM 101-50-19, 22 November 1976 with changes, Joint Technical Coordinating Group for Munitions Effectiveness, SECRET manual.

<sup>7</sup>JMEM Computer Program for General Full Spray Personnel Mean Area of Effectiveness Computations(U); Volumes I & 2, 61 JTCG/ME 70-6-1 and 61 JTCG/ME 70-6-2, 20 December 1976, Joint Technical Coordinating Group for Munitions Effectiveness, CONFIDENTIAL manual.

<sup>8</sup>Schmoke, M.A.; A Combinatorial Geometry Description of the Improved TOW Vehicle, XM901; BRL Technical Report ARBRL-TR-2133, January 1979, US Army Ballistics Research Laboratory, Aberdeen Proving Ground, MD.

TABLE 5 PRESENTED AREA (SQ FT) VERSUS ELEVATION FOR THE PRONE PROTECTED POSTURE

<u>Elevation</u>	<u>Presented Area</u>
0.0	.70130
.1	.71157
.2	.71722
.3	.70022
.4	.72713
.5	.70927
.6	.71264
.7	.70906
.8	.70320
.9	.70341
1.0	.70409
2.0	.71139
3.0	.73536
4.0	.75284
5.0	.85728
6.0	.94954
7.0	1.02074
8.0	1.04355
9.0	1.08175
10.0	1.11166
15.0	1.38204
20.0	1.70237
25.0	2.06159
30.0	2.41308
35.0	2.81480
40.0	3.18256
45.0	3.58912
50.0	3.87929
55.0	4.12610
60.0	4.32874
65.0	4.47087
70.0	4.65428
75.0	4.76146
80.0	4.90802
85.0	4.97345
90.0	4.97598

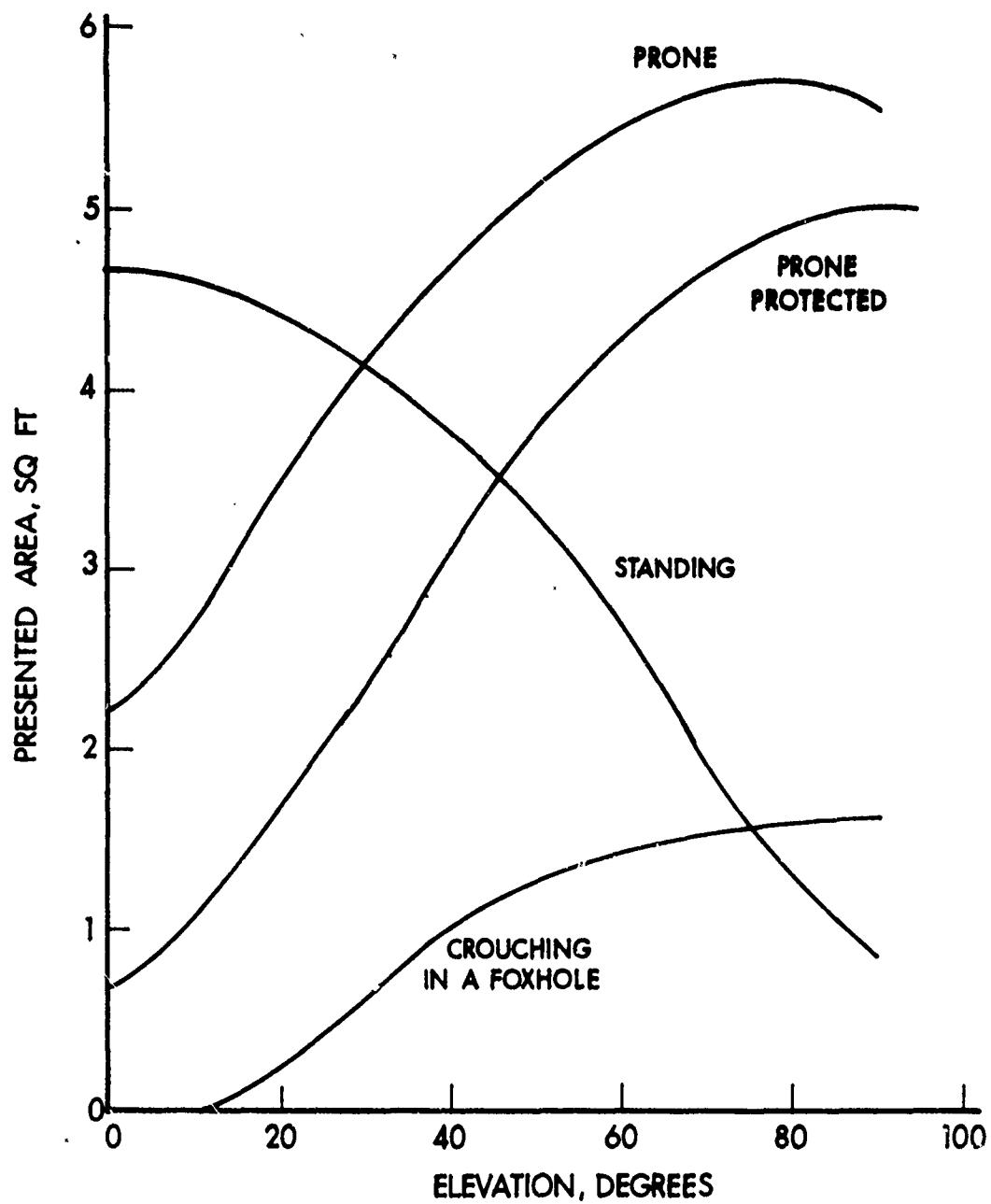


Figure 12. Presented Area vs Elevation (No Terrain Shielding)

TABLE 6 FRACTIONAL REDUCTION IN PRESENTED AREA FOR THE PRONE PROTECTED POSTURE DUE TO TERRAIN SHIELDING AT VARIOUS RANGES\* AND HEIGHTS OF BURST  
NOTE: SEE TABLE 6 FOR THE APPROPRIATE RANGES.

\*See Table 7 for the corresponding ranges.

TABLE 7 RANGE VERSUS HEIGHT OF BURST FOR THE PRONE PROTECTED POSTURE

HOB ft	0.0	1/48	1/24	1/16	1/8	2.5	5	10	15	20	25	30	40	50	60	70	80	90	100
Rng ft	0.0	0	0	0	0	2.0	4	6	8	10	10	10	10	10	10	10	10	10	10
1	1	1	1	2	4	4	4	6	6	8	8	8	8	8	8	8	8	8	8
2	2	2	2	4	3.0	4	4	6	6	8	8	8	8	8	8	8	8	8	8
3	3	3	3	6	4	6	4	8	8	10	10	10	10	10	10	10	10	10	10
4	4	4	4	8	5	8	8	6	6	10	10	10	10	10	10	10	10	10	10
5	5	5	5	10	6	10	10	8	8	10	10	10	10	10	10	10	10	10	10
6	6	6	6	15	8	15	15	20	20	20	20	20	20	20	20	20	20	20	20
7	7	7	7	20	10	20	20	30	20	40	40	40	40	40	40	40	40	40	40
8	8	8	8	30	15	30	30	40	30	50	50	60	60	60	60	60	60	60	60
9	9	9	9	40	20	40	40	60	40	60	60	80	80	80	80	80	80	80	80
10	10	10	10	60	30	60	60	80	50	70	70	100	90	100	100	100	100	100	100
20	20	20	20	80	40	80	80	100	60	80	80	150	100	150	150	150	150	150	150
30	30	30	30	100	60	100	100	150	80	100	100	200	150	200	200	200	200	200	200
40	40	40	40	200	80	150	150	200	100	150	150	300	200	250	300	300	250	250	250
50	50	50	50	300	100	200	200	300	200	200	200	400	250	300	350	400	300	300	300
60	60	60	60	400	150	250	300	400	300	300	300	500	300	400	400	500	400	400	400
70	70	70	70	500	200	300	400	500	300	400	400	600	400	500	500	600	500	500	500
80	80	80	80	600	300	400	500	600	400	500	500	700	500	600	600	700	600	600	600
100	100	100	100	700	400	500	500	500	700	500	600	600	800	600	700	700	700	700	700
200	200	200	200	800	500	600	700	800	600	700	700	900	700	800	800	900	800	800	800
300	300	300	300	900	600	700	800	900	700	800	800	1000	800	900	900	1000	900	900	900
400	400	400	400	1000	700	800	900	1000	800	900	900	1100	900	1000	1000	1000	900	900	900
500	500	500	500	1100	800	900	1000	1100	900	1000	1000	1300	900	1000	1000	1000	900	900	900
600	600	600	600	1200	900	1000	1100	1200	900	1000	1000	1300	1100	1200	1200	1200	1100	1100	1100
700	700	700	700	1300	1000	1100	1200	1300	1000	1100	1100	1400	1200	1300	1300	1300	1200	1200	1200
800	800	800	800	1400	1100	1200	1300	1400	1100	1200	1200	1500	1200	1300	1300	1300	1200	1200	1200
900	900	900	900	1500	1200	1300	1400	1500	1200	1300	1300	1800	1200	1400	1400	1400	1200	1200	1200
1000	1000	1000	1000	1600	1300	1400	1500	1600	1300	1400	1400	1900	1300	1500	1500	1500	1300	1300	1300
1100	1100	1100	1100	1700	1400	1500	1600	1700	1400	1500	1500	2000	1400	1600	1600	1600	1400	1400	1400
1200	1200	1200	1200	1800	1500	1600	1700	1800	1500	1600	1600	2000	1500	1700	1700	1700	1500	1500	1500
1300	1300	1300	1300	1900	1600	1700	1800	1900	1600	1700	1700	2000	1600	1800	1800	1800	1600	1600	1600
1400	1400	1400	1400	2000	1700	1800	1900	2000	1700	1800	1800	2000	1700	1900	1900	1900	1700	1700	1700
1500	1500	1500	1500	2000	1800	1900	2000	2000	1800	1900	1900	2000	1800	2000	2000	2000	1800	1800	1800
2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000

TABLE 8 PRESENTED AREA VERSUS HEIGHT OF BURST FOR THE PRONE PROTECTED POSTURE AT VARIOUS RANGES\*. PRESENTED AREA IN SQUARE EFFT - NOTE: SEE TABLE 6 FOR THE APPROPRIATE RANGES

\*See Table 6 for the corresponding ranges.

TABLE 9 RELATIVE LETHAL AREAS FOR THE M107 PROJECTILE AND THE M42 SUBMUNITION

Munition	Height of Burst (Feet)	Standing <sup>a</sup>	Prone	Prone Protected <sup>b</sup> Composite	Protected Individual	Crouching in a Foxhole
M42	.1042	1.00	.515	.227	.192	.016
M107.	.7	1.00	.356	.161	.152	.010
M107	15	1.00	.657	.371	.363	.081

<sup>a</sup>Normalized such that "Standing" is equal to unity.

<sup>b</sup>"Composite" data were calculated with the combined prone protected posture function; "Individual" data were calculated with the individual functions, then combined.

Adoption of the prone protected posture would require that (1) lethal areas be calculated for all projectiles of interest and (2) that all models involving posture sequencing be modified to include a fourth posture. If there is a constant ratio of prone protected lethal area to prone lethal area, the former requirement could be satisfied by a simple computation. Ratios of prone protected to prone lethal areas were calculated from data in Reference 9 and are presented in Table 10. Table 11 presents the average of the ratios for the two environments given in Table 10. Included also is the ratio for the M42 DP-ICM. The ratio for one HE-PD fuzed (ground burst) projectile is included to indicate the effect of height of burst on the ratio.

The maximum percentage differences between the average ratios for the data in Table 10 and the individual data points is +6.7 percent and -15.8 percent for the open environment and +13.3 percent for the wooded environment. Use of the averages rather than the specific ratios is appropriate considering the approximations involved in: (1) representing all posture sequences in the TRAPS test by two sequences (+23 percent and -38 percent maximum differences), (2) combining the eight individual presented area functions into one function, and (3) representing all personnel by one "standard" man.

As an indication of the effect the use of the prone protected posture would have on weapons effectiveness studies, the expected fractional casualties were calculated for an artillery battery firing on a towed artillery unit 200 meters in diameter. The target battery was assumed to be in (1) an unprepared position (i.e., in position less than 8 hours) and (2) in a hardened position (i.e., greater than 8 hours). Posture sequences were selected from three sources: the Concepts Analysis Agency's (CAA) 1987 Ammo Rates Study, the SCORES 2A/86 Scenario, and the TRAPS Study. These sequences are presented in Table 12. It should be pointed out that the SCORES scenario does not differentiate between prepared and unprepared positions for towed artillery units. The number of battery volleys (6 rounds each) required to achieve various specified levels of expected fractional casualties are shown in Figure 13 for the three posture sequences.

Percent differences in ammunition requirements for the CAA and SCORES posture sequences with respect to those predicted by the TRAPS sequence for a casualty level of 30 percent are presented in Table 13.

---

<sup>9</sup>Rapp, J.R., G.G. Kuehl, T. Erline, and F.J. Vanderbeck; BMP-76 Amphibious Armored Infantry Combat Vehicle (Soviet) Computer Description (U); BRL Report No. T862, March 1976, US Army Ballistics Research Laboratory, Aberdeen Proving Ground, MD, CONFIDENTIAL report.

TABLE 10 RATIOS OF PRONE PROTECTED TO PRONE LETHAL AREAS  
 (HEIGHT OF BURST = 15 FEET IN OPEN, GROUND BURST-IN WOODS)

Proj	Angle of Fall	5-Min Assault		Serious		Lethal	
		Open	Woods	Open	Woods	Open	Woods
M329A1	48	.606		.607		.620	
	58	.601		.600		.591	
	68	.572		.577		.538	
M1(TNT)	15	.610	.744	.610	.743	.609	.750
	33	.610	.675	.609	.677	.608	.674
	51	.588	.602	.588	.604	.589	.580
M1(CB)	15	.598		.598		.597	
	33	.596		.598		.596	
	51	.578		.579		.575	
M1E2(TNT)	15	.606		.607		.607	
	33	.602		.604		.602	
	51	.585		.585		.586	
M1E2(CB)	15	.620		.619		.621	
	33	.617		.616		.614	
	51	.607		.607		.606	
M548(CB)	22	.616		.617		.616	
	Rkt On	.611		.610		.608	
	68	.590		.589		.590	
M548(CB)	22	.598		.599		.594	
	Rkt Off	.592		.592		.592	
	68	.583		.583		.582	
M107E1	22	.578		.580		.579	
	34	.576		.575		.577	
	55	.566		.570		.564	
XM795	22	.585		.585		.638	
	34	.587		.587		.587	
	55	.578		.578		.578	
M549E1	22	.594		.594		.594	
	34	.587		.587		.586	
	68	.561		.562		.561	
M107 CB	22	.578		.577		.577	
	34	.571		.571		.573	
	55	.560		.560		.560	

TABLE 10 RATIOS OF PRONE PROJECTED TO PRONE LETHAL AREAS  
(HEIGHT OF BURST = 15 FEET IN OPEN, GROUND BURST-IN WOODS)-CONT'D

Proj	Angle of Fall	5-Min Assault		Serious		Lethal	
		Open	Woods	Open	Woods	Open	Woods
M107	22	.572	.714	.572	.721	.576	.726
	TNT	.564	.667	.566	.667	.563	.671
	55	.550	.585	.549	.585	.550	.582
M437A2	13	.549		.549		.550	
	CB	.552		.551		.552	
	63	.520		.520		.521	
M106	17	.560	.729	.559	.731	.559	.734
	TNT	.552	.662	.552	.666	.552	.669
	54	.526	.574	.525	.575	.526	.579
M106	17	.559		.560		.560	
	CB	.551		.552		.551	
	54	.531		.531		.531	
XM650E4	22	.572		.573		.573	
	Rkt On	.571		.571		.571	
	68	.560		.560		.561	
XM650E5	22	.570		.570		.569	
	Rkt On	.570		.570		.570	
	68	.559		.559		.559	
120mm Mortar	45	.649		.762		.665	
	60	.631		.637		.622	
	75	.577		.584		.557	
122mm MRL	15	.595		.592		.638	
	30	.592		.593		.593	
	60	.577		.577		.578	
122mm Gun	15	.609		.610		.610	
	30	.612		.611		.610	
	60	.592		.592		.592	
130mm Gun	15	.584		.585		.586	
	30	.588		.588		.589	
	60	.568		.568		.568	
152mm Gun	15	.613		.614		.613	
	30	.583		.583		.584	
	60	.558		.559		.556	
FROG-7	45	.485		.484		.536	

Average (Open) = .582  
Average (Woods) = .662

TABLE 11 RATIOS OF PRONE PROTECTED TO PRONE LETHAL AREAS

	<u>Ratio</u>
HE Projectile/Proximity Fuze/Open Terrain	0.58
HE Projectile/PD Fuze/Temperate Forest	0.66
HE Projectile/PD Fuze/Open Terrain	0.45
DPICM-Open Terrain	0.44

TABLE 12 POSTURE SEQUENCE (IN PERCENT) FOR TOWED ARTILLERY UNITS

<u>Posture</u>	<u>CAA</u>		<u>SCORES</u>		<u>TRAPS</u>	
	<u>Init.</u>	<u>Subs.</u>	<u>Init.</u>	<u>Subs.</u>	<u>Init.</u>	<u>Subs.</u>
<u>Unprepared Position - ICM</u>						
S	10	0	0	0	0	0
P	90	90	25	25	20	5
PP	N/A	N/A	N/A	N/A	80	95
C/F	0	10	75	75	0	0
<u>Unprepared Position - HE</u>						
S	65	0	60	0	0	0
P	35	90	0	25	20	5
PP	N/A	N/A	N/A	N/A	80	95
C/F	0	10	40	75	0	0
<u>Prepared Position - ICM</u>						
S	5	0	0	0	0	0
P	5	0	25	25	0	0
PP	N/A	N/A	N/A	N/A	10	5
C/F	90	100	75	75	90	95
<u>Prepared Position - HE</u>						
S	10	0	60	0	0	0
P	0	0	0	25	10	0
PP	N/A	N/A	N/A	N/A	35	5
C/F	90	100	40	75	55	95

S = Standing  
P = Prone

PP = Prone Protected  
C/F = Crouching in a Foxhole

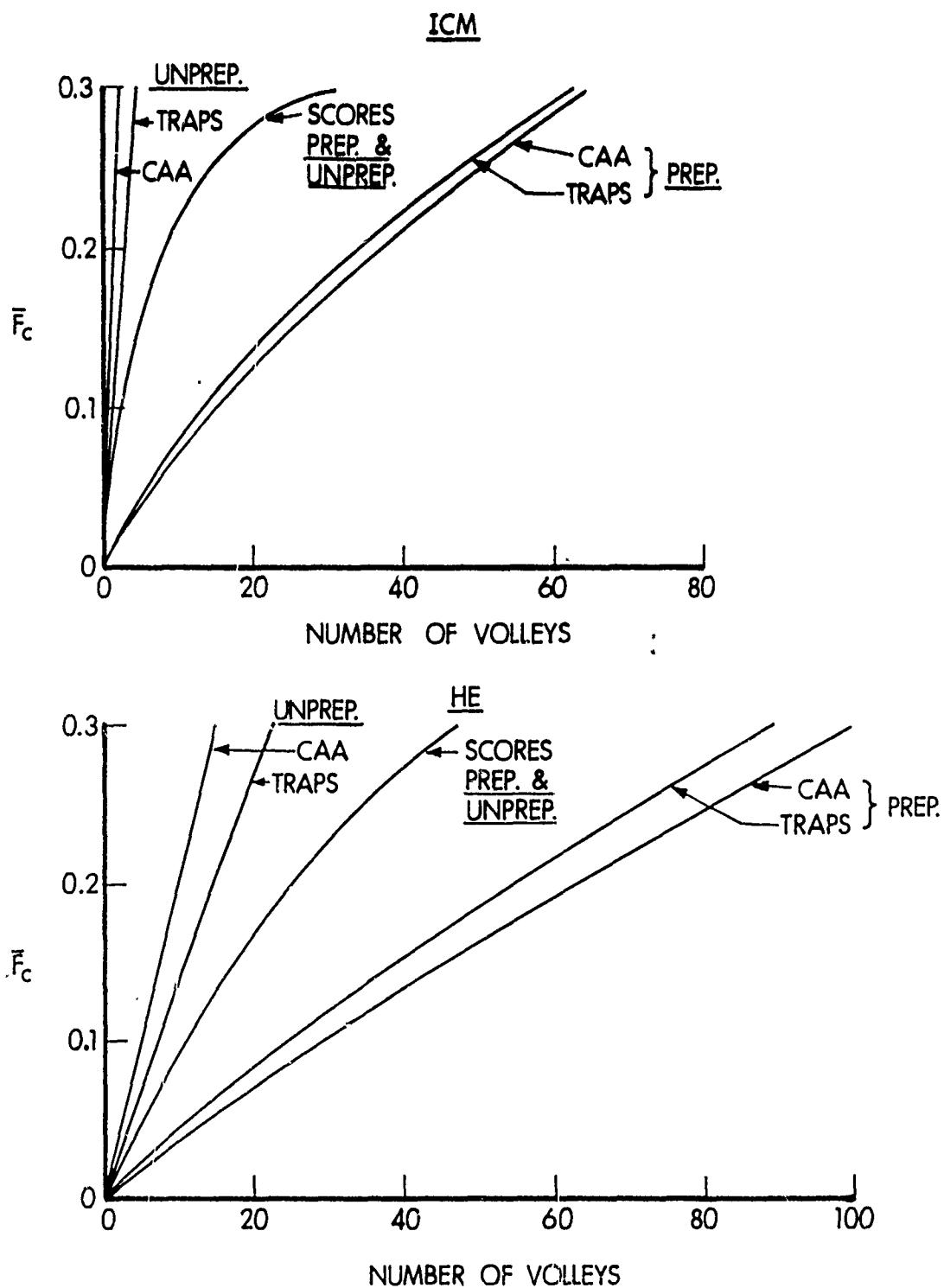


Figure 13. Expected Fractional Casualties ( $F_C$ ) vs. Number of Volleys for a Towed Artillery Unit in Prepared and Unprepared Positions.

TABLE 13 PERCENT DIFFERENCES IN AMMUNITION REQUIREMENTS TO  
ACHIEVE 30 PERCENT CASUALTY LEVEL  
(RELATIVE TO TRAPS REQUIREMENTS)

	ICM		HE	
	CAA	SCORES	CAA	SCORES
Prepared	+3%	-50%	+12%	-46%
Unprepared	-50%	+675%	-32%	+118%

In those situations where unprepared positions are involved, use of the SCORES 2A/86 posture sequence will produce grossly exaggerated ammunition requirements, while use of the CAA sequence will underestimate these requirements compared to the results using the TRAPS postures. In the case of prepared positions, the SCORES sequence underestimates the requirements and the CAA sequence overestimates them slightly. Since the SCORES and CAA posture sequences are not based on experimental data, as are the TRAPS sequences, and do not contain a posture analogous to the prone protected posture, such large differences in estimating ammunition requirements could be expected.

#### 4. CONCLUSIONS

Based on the above analysis, it is concluded that:

- (1) There are significant differences in the presented area functions of the various prone protected postures.
- (2) Although the presented area function of Posture 7, Prone Personnel Under a 2-1/2 Ton Truck is significantly different from the other presented area functions, omission of this posture from the composite function does not change the resultant lethal area significantly due to the weighting schemes used.
- (3) Lethal areas calculated from the composite function do not differ significantly from those obtained by using a weighted average of lethal areas calculated for each posture.
- (4) Use of the prone protected posture in situations involving unprepared positions results in substantial differences in the estimates of the quantity of ammunition required to achieve a specified level of damage to the target.

(5) The use of a constant multiplier to derive estimates of prone protected lethal areas from calculated values of prone lethal area is accurate to within +15 percent of the calculated value using the derived presented area function.

## 5. RECOMMENDATIONS

(1) Because of the large proportion of troops who assume the prone protected posture when in unprepared positions, it is recommended that the analytical community use the prone protected posture where appropriate. Targets that are expected to have a large portion of troops who will assume this posture when under artillery attack are:

- Dismounted infantry in the assault.
- Towed artillery in newly-occupied positions.
- Temporary command posts.
- Personnel in supply depots.

(2) Because of the high degree of protection against fragmenting munitions offered to personnel who seek cover between the wheels or tracks of cross-country-type vehicles, it is recommended that targets which contain significant numbers of these vehicles be analyzed initially to determine if it would be appropriate to reduce the prone protected lethal area to compensate for the preponderance of personnel in this one low vulnerability posture. If a reduction is appropriate, the following guidelines should be applied to the airburst (proximity fuze) case only.

<u>Percentage of Prone Protected Personnel Under Vehicles</u>	<u>Reduction in Prone Protected Lethal Area</u>
25%	12%
50%	25%
75%	39%
100%	53%

(3) Inspection of Figure 10 reveals that Posture 3, Prone Personnel Under Two Culvert Halves, also has a very low vulnerability to fragmenting munitions. If personnel again employ this technique to enhance survivability, it is recommended that this posture be included in the composite prone protected posture.

(4) Finally, it is recommended that the various Army schools assess the data in this report and instruct their students in the advantages of consciously utilizing the prone protected posture to increase their likelihood of survival.

## REFERENCES

1. Troop Reaction and Posture Sequence; USACDEC Experiment FC032, June 1976, US Army Combat Developments Experimentation Command, FT Ord, CA 93941.
2. King, B.F.; Analysis of the Troop Reaction and Posture Sequence (TRAPS) Field Test (U), Technical Report No. 235, June 1978, US Army Materiel Systems Analysis Activity, Aberdeen Proving Ground, MD 21005, CONFIDENTIAL report.
3. Bain, L.L. and M.J. Reisinger; GIFT Code User Manual, Volume I, Introduction and Input Requirements; BRL Report 1802, July 1975, AD B0060037L, US Army Ballistics Research Laboratory, Aberdeen Proving Ground, MD 21005.
4. CACDA Manual War Gaming Report, Corps Defense/Delay (U), Standard Scenario for Combat Developments (U); Europe I, Sequence 2A, ACN 21972, November 1975, US Army Combined Arms Center, FT Leavenworth, KS, SECRET NOFORN report.
5. Organization and Equipment of the Soviet Army; HB 550-2, July 1978, US Army Combined Arms Combat Developments Activity, FT Leavenworth, KS.
6. Target Vulnerability (U); FM 101-50-19, 22 November 1976 with changes, Joint Technical Coordinating Group for Munitions Effectiveness, SECRET manual.
7. JMEM Computer Program for General Full Spray Personnel Mean Area of Effectiveness Computations (U); Volumes I & 2, 61 JTCG/ME-70-6-1 and 61 JTCG/ME-70-6-2, 20 December 1976, Joint Technical Coordinating Group for Munitions Effectiveness, CONFIDENTIAL manual.
8. Schmoke, M.A.; A Combinatorial Geometry Description of the Improved TOW Vehicle, XM901; BRL Technical Report ARBRL-TR-2133, January 1979, US Army Ballistic Reserach Laboratory, Aberdeen Proving Ground, MD 21005.
9. Rapp, J.R., G.G. Kuehl, T. Erline, and F.J. Vanderbeck; BMP-76 Amphibious Armored Infantry Combat Vehicle (Soviet) Computer Descriptions (U), BRL Report No. 1862, March 1976, US Army Ballistic Research Laboratory, Aberdeen Proving Ground, MD 21005, CONFIDENTIAL report.

Next page is blank.

**APPENDIX A**

**PRESENTED AREAS OF BODY PART AREAS  
FOR THE PRONE PROTECTED MAN**

## APPENDIX A

This appendix contains presented area data for the prone protected man by body part. The parts of the body considered are the head (including the neck), the thorax, the abdomen, the pelvis, the legs as one unit, and the arms. This data are of use to analysts doing studies where one part of the body is shielded more than other parts, such as by a helmet or by body armor.

Tables A-1 through A-6 contain the presented area data for each of the body parts for use in the JMEM Lethal Area Computer Program. Tables A-7 through A-17 contain presented areas as a function of elevation for each of the body parts for the nine positions investigated in this work plus a prone man in the open and the final prone protected man.

TABLE A-1 PRESENTED AREAS IN SQUARE FEET FOR THE HEAD OF A PRONE PROTECTED MAN AT VARIOUS RANGES AND HEIGHTS OF BURST

TABLE A-2 PRESENTED AREAS IN SQUARE FEET FOR THE THORAX OF A PRONE PROTECTED MAN AT VARIOUS RANGES AND HEIGHTS OF BURST

TABLE A-3 PRESENTED AREAS IN SQUARE FEET FOR THE ABDOMEN OF A PRONE PROTECTED MAN AT VARIOUS RANGES AND HEIGHTS OF BURST

TABLE A-4 PRESENTED AREAS IN SQUARE FEET FOR THE PELVIS OF A PRONE PROTECTED MAN AT VARIOUS RANGES AND HEIGHTS OF BURST

TABLE A-5 PRESENTED AREAS IN SQUARE FEET FOR THE LEGS OF A PRONE PROTECTED MAN AT VARIOUS RANGES  
AND HEIGHTS OF BURST

	0	1/48	1/24	1/16	1/8	2 1/2	5	10	15	20	25	30	40	50	60	70	80	90	100
*10	*19	*20	.30	1.90	2.12	2.20	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
*11	*19	*20	.21	1.57	2.11	2.18	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21
*12	*16	*19	.19	.20	1.19	1.56	1.89	2.05	2.11	2.14	2.19	2.22	2.24	2.24	2.24	2.24	2.24	2.24	2.24
*13	*15	*17	.18	.90	1.19	1.72	1.90	2.06	2.06	2.12	2.16	2.20	2.22	2.23	2.23	2.23	2.23	2.23	2.23
*14	*14	*15	.15	.72	.90	1.57	1.78	2.01	1.98	2.05	2.12	2.17	2.18	2.19	2.21	2.21	2.21	2.21	2.21
*15	*11	*14	.15	.72	.90	1.39	1.68	1.89	1.90	1.98	2.06	2.11	2.15	2.16	2.18	2.21	2.21	2.21	2.21
*16	*10	*12	.13	.60	.72	1.39	1.96	1.08	1.79	1.57	1.68	1.79	1.90	1.98	2.03	2.08	2.09	2.11	2.11
*17	*09	*11	.13	.46	.46	.96	.96	.96	.96	.96	.96	.96	.96	.96	.96	.96	.96	.96	.96
*18	*08	*10	.12	.08	.40	.39	.72	.72	1.39	1.39	1.08	1.08	1.68	1.75	1.80	1.85	1.90	1.90	1.90
*19	*09	*11	.11	.06	.33	.32	.48	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
*20	*08	*10	.10	.05	.29	.28	.39	.39	.72	.72	.72	.72	.72	.72	.72	.72	.72	.72	.72
*21	*07	*09	.09	.04	.21	.21	.32	.34	.58	.58	.51	.62	.58	.79	.86	.1.01	.1.15	.1.27	.1.39
*22	*06	*07	.09	.03	.16	.16	.28	.31	.48	.46	.46	.46	.41	.72	.58	.68	.77	.86	.96
*23	*03	*04	.05	.03	.16	.16	.16	.16	.09	.16	.15	.15	.15	.27	.27	.29	.33	.34	.34
*24	*02	*03	.04	.03	.14	.14	.24	.24	.39	.39	.45	.45	.45	.48	.48	.45	.50	.58	.65
*25	*02	*02	.03	.02	.12	.12	.11	.11	.18	.35	.32	.34	.32	.34	.39	.39	.38	.41	.51
*26	*01	*01	.02	.02	.10	.10	.14	.14	.24	.24	.27	.30	.24	.24	.35	.34	.34	.44	.48
*27	*01	*01	.02	.02	.07	.07	.11	.11	.11	.11	.20	.24	.19	.32	.30	.32	.31	.37	.39
*28	*01	*01	.02	.02	.05	.05	.06	.06	.09	.09	.16	.15	.15	.27	.27	.29	.28	.33	.34
*29	*01	*01	.01	.01	.03	.03	.05	.05	.05	.09	.10	.11	.12	.15	.15	.16	.19	.24	.25
*30	*01	*01	.01	.01	.02	.02	.02	.02	.06	.08	.14	.15	.15	.14	.15	.16	.16	.22	.24
*31	*01	*01	.01	.01	.03	.03	.04	.05	.05	.07	.12	.14	.13	.20	.21	.23	.23	.29	.29
*32	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.11	.11	.13	.16	.18	.21	.22	.26	.27
*33	*01	*01	.01	.01	.03	.03	.03	.05	.05	.09	.10	.11	.12	.15	.16	.18	.19	.24	.25
*34	*01	*01	.01	.01	.04	.04	.04	.05	.05	.08	.09	.10	.11	.14	.15	.16	.22	.24	.24
*35	*01	*01	.01	.01	.03	.03	.04	.05	.05	.07	.08	.09	.09	.09	.14	.00	.00	.00	.00
*36	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*37	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*38	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*39	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*40	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*41	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*42	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*43	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*44	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*45	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*46	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*47	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*48	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*49	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*50	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*51	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*52	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*53	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*54	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*55	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*56	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*57	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*58	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*59	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*60	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*61	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*62	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*63	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*64	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*65	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*66	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*67	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*68	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*69	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*70	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*71	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*72	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*73	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*74	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*75	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*76	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*77	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*78	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*79	*01	*01	.01	.01	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07	.07	.07	.07	.07
*80	*01	*01	.01	.01	.03	.03	.04	.05</											

TABLE A-6 PRESENTED AREAS IN SQUARE FEET FOR THE ARMS OF A PRONE PROTECTED MAN AT VARIOUS RANGES AND HEIGHTS OF BURST

TABLE A-7 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN IN THE OPEN

Elevation Deg	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.068	.369	.277	.383	.684	.443
.10	.074	.393	.264	.385	.707	.426
.20	.086	.365	.285	.400	.686	.439
.30	.063	.400	.266	.383	.707	.418
.40	.074	.381	.277	.404	.691	.447
.50	.074	.375	.264	.381	.732	.410
.60	.066	.404	.277	.395	.705	.418
.70	.061	.377	.270	.418	.684	.455
.80	.074	.398	.281	.408	.68	.422
.90	.062	.389	.289	.395	.678	.436
1.00	.074	.389	.285	.383	.713	.432
2.00	.078	.406	.275	.385	.707	.445
3.00	.055	.424	.289	.414	.699	.482
4.00	.063	.441	.330	.391	.689	.465
5.00	.055	.445	.305	.396	.729	.494
6.00	.051	.457	.336	.416	.730	.486
7.00	.053	.498	.336	.426	.746	.488
8.00	.053	.484	.328	.422	.775	.510
9.00	.049	.510	.352	.445	.799	.504
10.00	.043	.520	.361	.443	.813	.523
15.00	.035	.578	.391	.518	.941	.596
20.00	.043	.645	.453	.547	1.094	.633
25.00	.042	.709	.508	.596	1.260	.668
30.00	.055	.738	.523	.652	1.396	.723
35.00	.074	.760	.561	.680	1.549	.777
40.00	.084	.801	.563	.709	1.668	.797
45.00	.105	.865	.602	.715	1.828	.822
50.00	.106	.850	.624	.764	1.951	.836
55.00	.105	.859	.637	.752	2.072	.887
60.00	.129	.902	.621	.785	2.174	.855
65.00	.137	.885	.641	.787	2.250	.865
70.00	.148	.896	.633	.799	2.332	.955
75.00	.156	.857	.625	.771	2.414	.655
80.00	.161	.626	.633	.764	2.441	.877
85.00	.162	.622	.613	.721	2.475	.836
90.00	.162	.801	.553	.732	2.484	.818

TABLE A-8 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN LYING UNDER A CULVERT HALF

Elevation Deg	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.029	.065	0.000	.051	.121	.236
.10	.031	.072	0.000	.043	.146	.230
.20	.037	.059	.004	.047	.141	.227
.30	.021	.074	.002	.047	.139	.225
.40	.033	.064	0.000	.063	.133	.236
.50	.031	.059	0.000	.064	.131	.219
.60	.031	.070	0.000	.057	.127	.215
.70	.027	.057	.004	.066	.125	.244
.80	.027	.070	.002	.055	.127	.229
.90	.031	.066	.002	.057	.131	.223
1.00	.035	.061	.002	.051	.143	.217
2.00	.029	.072	.002	.055	.125	.242
3.00	.024	.076	.004	.057	.133	.238
4.00	.023	.086	.014	.043	.129	.236
5.00	.016	.092	.008	.041	.145	.260
6.00	.020	.090	.027	.047	.160	.248
7.00	.016	.105	.018	.063	.154	.248
8.00	.018	.092	.016	.047	.166	.254
9.00	.016	.092	.020	.064	.176	.238
10.00	.008	.098	.027	.051	.197	.236
15.00	.006	.080	.016	.037	.205	.260
20.00	.002	.082	.023	.006	.184	.268
25.00	.006	.084	0.000	0.000	.188	.275
30.00	.010	.049	0.000	0.000	.166	.283
35.00	.012	.033	0.000	0.000	.150	.285
40.00	.008	.020	0.000	0.000	.141	.277
45.00	.006	.008	0.000	0.000	.137	.277
50.00	.002	.000	0.000	0.000	.117	.248
55.00	.002	.000	0.000	0.000	.113	.234
60.00	0.006	0.000	0.000	0.000	.086	.193
65.00	0.000	0.000	0.000	0.000	.074	.164
70.00	0.000	0.000	0.000	0.000	.063	.123
75.00	0.000	0.000	0.000	0.000	.043	.088
80.00	0.000	0.000	0.000	0.000	.025	.068
85.00	0.000	0.000	0.000	0.000	.010	.023
90.00	0.000	0.000	0.000	0.000	0.000	0.000

TABLE A-9 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN BESIDE TWO-HIGH 55-GAL DRUMS

Elevation Deg.	Head	Thorax	Abdomen	Pelvis	Legs	Arms
6.00	• 0.35	• 1.3	• 1.44	• 2.13	• 3.71	• 2.53
• 1.0	• 0.3	• 1.3	• 1.3	• 2.13	• 3.45	• 2.75
• 2.0	• 0.47	• 1.7	• 1.45	• 2.23	• 3.73	• 2.85
• 3.0	• 0.37	• 1.7	• 1.35	• 2.13	• 3.65	• 2.77
• 4.0	• 0.44	• 2.01	• 1.37	• 2.42	• 3.77	• 2.97
• 5.0	• 0.43	• 2.03	• 1.37	• 2.13	• 4.00	• 2.64
• 6.0	• 0.33	• 1.5	• 1.43	• 2.29	• 3.84	• 2.66
• 7.0	• 0.27	• 2.07	• 1.41	• 2.34	• 3.07	• 2.93
• 8.0	• 0.41	• 2.11	• 1.34	• 2.34	• 3.63	• 2.76
• 9.0	• 0.35	• 1.5	• 1.45	• 2.23	• 3.69	• 2.81
1.00	• 0.39	• 2.04	• 1.60	• 2.07	• 3.83	• 2.73
2.00	• 0.43	• 2.15	• 1.31	• 2.23	• 3.89	• 2.97
3.00	• 0.25	• 2.7	• 1.70	• 2.34	• 3.81	• 3.07
4.00	• 0.57	• 2.34	• 1.76	• 2.24	• 3.67	• 2.97
5.00	• 0.43	• 2.40	• 1.69	• 2.15	• 4.14	• 3.18
6.00	• 0.32	• 2.42	• 1.61	• 2.39	• 4.12	• 3.14
7.00	• 0.52	• 2.75	• 1.64	• 2.40	• 4.16	• 3.16
8.00	• 0.24	• 2.73	• 1.64	• 2.35	• 4.34	• 3.26
9.00	• 0.23	• 2.87	• 1.70	• 2.60	• 4.56	• 3.36
10.00	• 0.23	• 2.61	• 1.44	• 2.34	• 4.92	• 3.46
11.00	• 0.21	• 2.09	• 2.13	• 2.47	• 3.57	• 3.41
12.00	• 0.21	• 2.07	• 2.05	• 3.03	• 5.52	• 4.16
13.00	• 0.21	• 2.00	• 2.05	• 3.06	• 7.81	• 4.51
14.00	• 0.27	• 2.57	• 2.00	• 2.73	• 8.73	• 4.84
15.00	• 0.21	• 2.01	• 2.05	• 4.64	• 9.57	• 5.20
16.00	• 0.21	• 2.07	• 2.05	• 3.26	• 4.24	• 5.26
17.00	• 0.21	• 2.00	• 2.05	• 3.54	• 4.35	• 5.47
18.00	• 0.20	• 2.02	• 2.05	• 4.43	• 4.47	• 5.66
19.00	• 0.20	• 2.02	• 2.05	• 4.43	• 4.19	• 5.56
20.00	• 0.20	• 2.02	• 2.05	• 4.43	• 4.04	• 5.44
21.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.95	• 5.44
22.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.86	• 5.44
23.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.77	• 5.44
24.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.68	• 5.44
25.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.59	• 5.44
26.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.50	• 5.44
27.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.41	• 5.44
28.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.32	• 5.44
29.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.23	• 5.44
30.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.14	• 5.44
31.00	• 0.20	• 2.02	• 2.05	• 4.43	• 3.05	• 5.44
32.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.96	• 5.44
33.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.87	• 5.44
34.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.78	• 5.44
35.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.69	• 5.44
36.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.60	• 5.44
37.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.51	• 5.44
38.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.42	• 5.44
39.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.33	• 5.44
40.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.24	• 5.44
41.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.15	• 5.44
42.00	• 0.20	• 2.02	• 2.05	• 4.43	• 2.06	• 5.44
43.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.97	• 5.44
44.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.88	• 5.44
45.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.79	• 5.44
46.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.70	• 5.44
47.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.61	• 5.44
48.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.52	• 5.44
49.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.43	• 5.44
50.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.34	• 5.44
51.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.25	• 5.44
52.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.16	• 5.44
53.00	• 0.20	• 2.02	• 2.05	• 4.43	• 1.07	• 5.44
54.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.98	• 5.44
55.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.89	• 5.44
56.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.80	• 5.44
57.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.71	• 5.44
58.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.62	• 5.44
59.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.53	• 5.44
60.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.44	• 5.44
61.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.35	• 5.44
62.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.26	• 5.44
63.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.17	• 5.44
64.00	• 0.20	• 2.02	• 2.05	• 4.43	• 0.08	• 5.44
65.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.01	• 5.44
66.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.10	• 5.44
67.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.21	• 5.44
68.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.32	• 5.44
69.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.43	• 5.44
70.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.54	• 5.44
71.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.65	• 5.44
72.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.76	• 5.44
73.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.87	• 5.44
74.00	• 0.20	• 2.02	• 2.05	• 4.43	• -0.98	• 5.44
75.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.09	• 5.44
76.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.20	• 5.44
77.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.31	• 5.44
78.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.42	• 5.44
79.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.53	• 5.44
80.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.64	• 5.44
81.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.75	• 5.44
82.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.86	• 5.44
83.00	• 0.20	• 2.02	• 2.05	• 4.43	• -1.97	• 5.44
84.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.08	• 5.44
85.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.19	• 5.44
86.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.30	• 5.44
87.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.41	• 5.44
88.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.52	• 5.44
89.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.63	• 5.44
90.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.74	• 5.44
91.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.85	• 5.44
92.00	• 0.20	• 2.02	• 2.05	• 4.43	• -2.96	• 5.44
93.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.07	• 5.44
94.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.18	• 5.44
95.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.29	• 5.44
96.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.40	• 5.44
97.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.51	• 5.44
98.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.62	• 5.44
99.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.73	• 5.44
100.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.84	• 5.44
101.00	• 0.20	• 2.02	• 2.05	• 4.43	• -3.95	• 5.44
102.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.06	• 5.44
103.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.17	• 5.44
104.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.28	• 5.44
105.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.39	• 5.44
106.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.50	• 5.44
107.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.61	• 5.44
108.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.72	• 5.44
109.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.83	• 5.44
110.00	• 0.20	• 2.02	• 2.05	• 4.43	• -4.94	• 5.44

TABLE A-10 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN BESIDE ONE-HIGH 55-GAL DRUMS

Elevation Deg.	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.035	.193	.148	.213	.371	.283
.10	.033	.213	.133	.213	.395	.275
.20	.047	.197	.145	.223	.373	.285
.30	.035	.213	.135	.213	.365	.277
.40	.045	.201	.137	.242	.377	.297
.50	.043	.203	.137	.215	.400	.268
.60	.039	.215	.143	.229	.389	.266
.70	.035	.203	.141	.238	.367	.293
.80	.041	.211	.139	.234	.363	.275
.90	.039	.213	.145	.223	.369	.281
1.00	.039	.209	.150	.207	.383	.273
2.00	.043	.219	.131	.223	.389	.297
3.00	.029	.227	.150	.234	.381	.307
4.00	.037	.238	.176	.221	.367	.297
5.00	.033	.240	.160	.215	.414	.318
6.00	.033	.242	.191	.230	.412	.314
7.00	.025	.275	.184	.240	.416	.316
8.00	.029	.275	.164	.238	.434	.326
9.00	.023	.287	.176	.250	.455	.336
10.00	.020	.291	.193	.234	.492	.348
15.00	.021	.320	.213	.297	.557	.381
20.00	.025	.357	.266	.303	.662	.416
25.00	.021	.420	.284	.338	.781	.451
30.00	.027	.436	.295	.389	.673	.484
35.00	.045	.445	.330	.404	.957	.520
40.00	.051	.469	.326	.424	1.039	.529
45.00	.061	.518	.354	.438	1.150	.547
50.00	.066	.506	.385	.449	1.219	.555
55.00	.064	.539	.383	.469	1.303	.568
60.00	.080	.578	.424	.496	1.412	.572
65.00	.068	.611	.473	.549	1.557	.641
70.00	.107	.707	.482	.619	1.795	.646
75.00	.145	.746	.521	.654	2.078	.723
80.00	.166	.743	.557	.719	2.305	.793
85.00	.162	.813	.588	.715	2.447	.807
90.00	.162	.801	.553	.732	2.484	.818

TABLE A-11 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN LYING IN AN OPEN DITCH

Elevation Deg.	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	0•1160	0•000	0•000	0•000	0•000	0•000
•10	0•000	0•000	0•000	0•000	0•000	0•000
•20	0•000	0•000	0•000	0•000	0•000	0•000
•30	0•000	0•000	0•000	0•000	0•000	0•000
•40	0•000	0•000	0•000	0•000	0•000	0•000
•50	0•000	0•000	0•000	0•000	0•000	0•000
•60	0•000	0•000	0•000	0•000	0•000	0•000
•70	0•000	0•000	0•000	0•000	0•000	0•000
•80	0•000	0•000	0•000	0•000	0•000	0•000
•90	0•000	0•000	0•000	0•000	0•000	0•000
1.00	0•000	0•000	0•000	0•000	0•000	0•000
2.00	0•000	0•000	0•000	0•000	0•000	0•000
3.00	0•000	0•000	0•000	0•000	0•000	0•000
4.00	0•000	0•000	0•000	0•000	0•000	0•000
5.00	0•000	0•000	0•021	0•012	0•043	0•074
6.00	0•002	0•002	0•032	0•023	0•045	0•072
7.00	0•004	0•004	0•057	0•012	0•035	0•077
8.00	0•004	0•004	0•014	0•016	0•033	0•043
9.00	0•006	0•006	0•021	0•012	0•043	0•074
10.00	0•010	0•010	0•070	0•045	0•082	0•102
15.00	0•008	0•008	0•149	0•107	0•160	0•154
20.00	0•020	0•020	0•264	0•184	0•250	0•283
25.00	0•041	0•041	0•361	0•240	0•293	0•368
30.00	0•047	0•047	0•511	0•304	0•391	0•461
35.00	0•072	0•072	0•531	0•367	0•447	0•547
40.00	0•090	0•090	0•604	0•412	0•504	0•617
45.00	0•102	0•102	0•650	0•457	0•542	0•703
50.00	0•100	0•100	0•727	0•505	0•567	0•762
55.00	0•112	0•112	0•751	0•575	0•605	0•811
60.00	0•123	0•123	0•791	0•613	0•640	0•854
65.00	0•150	0•150	0•857	0•625	0•662	0•883
70.00	0•160	0•160	0•867	0•652	0•687	0•899
75.00	0•164	0•164	0•873	0•629	0•733	0•975
80.00	0•160	0•160	0•844	0•643	0•730	0•926
85.00	0•166	0•166	0•809	0•594	0•734	0•955
90.00	0•164	0•164	0•763	0•561	0•717	0•946

TABLE A-12 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN BESIDE A FALLEN LOG

Elevation Deg	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	•035	•193	•146	•213	•371	•252
•10	•033	•213	•133	•213	•393	•244
•20	•047	•197	•145	•223	•369	•258
•30	•035	•213	•135	•213	•363	•252
•40	•045	•201	•137	•242	•375	•273
•50	•043	•203	•137	•215	•398	•244
•60	•039	•215	•143	•229	•387	•240
•70	•035	•203	•141	•238	•365	•258
•80	•041	•211	•139	•234	•359	•246
•90	•039	•213	•145	•223	•365	•252
1.00	•039	•209	•150	•207	•379	•250
2.00	•043	•219	•131	•223	•385	•266
3.00	•029	•227	•150	•234	•377	•283
4.00	•037	•238	•176	•221	•361	•273
5.00	•033	•240	•158	•217	•408	•287
6.00	•031	•242	•191	•230	•406	•285
7.00	•025	•275	•184	•240	•408	•281
8.00	•029	•275	•164	•238	•430	•295
9.00	•023	•287	•176	•250	•447	•303
10.00	•020	•291	•193	•234	•484	•316
15.00	•021	•328	•215	•297	•549	•348
20.00	•025	•400	•287	•322	•660	•410
25.00	•023	•490	•338	•396	•801	•488
30.00	•035	•551	•363	•475	•967	•551
35.00	•064	•590	•432	•525	•1.178	•613
40.00	•080	•652	•444	•584	•1.373	•662
45.00	•000	•100	•734	•496	•604	•711
50.00	•000	•104	•738	•551	•654	•723
55.00	•005	•105	•771	•564	•668	•791
60.00	•127	•838	•554	•725	•2.102	•779
65.00	•135	•830	•602	•729	•2.209	•809
70.00	•146	•857	•602	•766	•2.313	•818
75.00	•154	•834	•611	•742	•2.396	•830
80.00	•160	•822	•631	•752	•2.441	•867
85.00	•162	•822	•613	•714	•2.475	•834
90.00	•166	•801	•553	•732	•2.484	•818

TABLE A-13 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN UNDER A 2 1/2-TON TRUCK

Elevation Deg.	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.031	.162	.072	.174	.305	.270
10	.035	.172	.074	.162	.318	.275
20	.047	.156	.084	.176	.305	.260
30	.025	.180	.066	.168	.318	.256
40	.039	.156	.074	.180	.305	.268
50	.037	.156	.061	.170	.318	.254
60	.033	.164	.074	.170	.297	.242
70	.033	.148	.076	.188	.297	.277
80	.033	.160	.068	.168	.293	.250
90	.035	.162	.074	.166	.293	.256
100	.039	.146	.063	.172	.322	.236
120	.029	.148	.051	.170	.291	.240
130	.029	.145	.033	.174	.270	.207
140	.016	.148	.039	.158	.248	.197
150	.012	.125	.020	.148	.266	.193
160	.010	.137	.031	.146	.258	.186
170	.010	.133	.014	.145	.254	.203
180	.010	.117	.004	.131	.260	.209
190	.014	.119	.008	.143	.250	.182
200	.008	.109	.002	.125	.248	.174
210	.002	.100	.002	.096	.256	.205
220	.002	.107	.002	.088	.262	.201
230	.006	.102	.004	.086	.273	.203
240	.012	.082	.000	.074	.223	.182
250	.000	.033	.000	.051	.072	.074
260	.000	.004	.000	.045	.023	.000
270	.000	.000	.000	.027	.006	.000
280	.000	.000	.000	.002	.000	.000
290	.000	.000	.000	.000	.000	.000
300	.000	.000	.000	.000	.000	.000
310	.000	.000	.000	.000	.000	.000
320	.000	.000	.000	.000	.000	.000
330	.000	.000	.000	.000	.000	.000
340	.000	.000	.000	.000	.000	.000
350	.000	.000	.000	.000	.000	.000
360	.000	.000	.000	.000	.000	.000
370	.000	.000	.000	.000	.000	.000
380	.000	.000	.000	.000	.000	.000
390	.000	.000	.000	.000	.000	.000
400	.000	.000	.000	.000	.000	.000
410	.000	.000	.000	.000	.000	.000
420	.000	.000	.000	.000	.000	.000
430	.000	.000	.000	.000	.000	.000
440	.000	.000	.000	.000	.000	.000
450	.000	.000	.000	.000	.000	.000
460	.000	.000	.000	.000	.000	.000
470	.000	.000	.000	.000	.000	.000
480	.000	.000	.000	.000	.000	.000
490	.000	.000	.000	.000	.000	.000
500	.000	.000	.000	.000	.000	.000
510	.000	.000	.000	.000	.000	.000
520	.000	.000	.000	.000	.000	.000
530	.000	.000	.000	.000	.000	.000
540	.000	.000	.000	.000	.000	.000
550	.000	.000	.000	.000	.000	.000
560	.000	.000	.000	.000	.000	.000
570	.000	.000	.000	.000	.000	.000
580	.000	.000	.000	.000	.000	.000
590	.000	.000	.000	.000	.000	.000
600	.000	.000	.000	.000	.000	.000
610	.000	.000	.000	.000	.000	.000
620	.000	.000	.000	.000	.000	.000
630	.000	.000	.000	.000	.000	.000
640	.000	.000	.000	.000	.000	.000
650	.000	.000	.000	.000	.000	.000
660	.000	.000	.000	.000	.000	.000
670	.000	.000	.000	.000	.000	.000
680	.000	.000	.000	.000	.000	.000
690	.000	.000	.000	.000	.000	.000
700	.000	.000	.000	.000	.000	.000
710	.000	.000	.000	.000	.000	.000
720	.000	.000	.000	.000	.000	.000
730	.000	.000	.000	.000	.000	.000
740	.000	.000	.000	.000	.000	.000
750	.000	.000	.000	.000	.000	.000
760	.000	.000	.000	.000	.000	.000
770	.000	.000	.000	.000	.000	.000
780	.000	.000	.000	.000	.000	.000
790	.000	.000	.000	.000	.000	.000
800	.000	.000	.000	.000	.000	.000
810	.000	.000	.000	.000	.000	.000
820	.000	.000	.000	.000	.000	.000
830	.000	.000	.000	.000	.000	.000
840	.000	.000	.000	.000	.000	.000
850	.000	.000	.000	.000	.000	.000
860	.000	.000	.000	.000	.000	.000
870	.000	.000	.000	.000	.000	.000
880	.000	.000	.000	.000	.000	.000
890	.000	.000	.000	.000	.000	.000
900	.000	.000	.000	.000	.000	.000

TABLE A-14 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN BESIDE A BERM

Elevation Deg	Head	Thorax	Abdomen	Pelvis	Lens	Arms
0.00	0.000	0.000	0.000	0.000	0.000	0.000
.10	0.690	0.000	0.000	0.000	0.000	0.000
.20	0.000	0.000	0.000	0.000	0.000	0.000
.30	0.000	0.000	0.000	0.000	0.000	0.000
.40	0.000	0.000	0.000	0.000	0.000	0.000
.50	0.000	0.000	0.000	0.000	0.000	0.000
.60	0.000	0.000	0.000	0.000	0.000	0.000
.70	0.000	0.000	0.000	0.000	0.000	0.000
.80	0.000	0.000	0.000	0.000	0.000	0.000
.90	0.000	0.000	0.000	0.000	0.000	0.000
1.00	0.000	0.000	0.000	0.000	0.000	0.000
2.00	0.000	0.000	0.000	0.000	0.000	0.000
3.00	0.000	0.000	0.000	0.000	0.000	0.000
4.00	0.000	0.008	0.014	0.014	0.016	0.016
5.00	0.016	0.082	0.064	0.066	0.092	0.092
6.00	0.008	0.164	0.115	0.139	0.127	0.127
7.00	0.021	0.203	0.148	0.186	0.330	0.191
8.00	0.018	0.211	0.164	0.184	0.346	0.213
9.00	0.021	0.223	0.174	0.197	0.352	0.203
10.00	0.018	0.229	0.168	0.207	0.330	0.223
15.00	0.014	0.285	0.221	0.281	0.473	0.285
20.00	0.016	0.365	0.246	0.326	0.62%	0.355
25.00	0.027	0.400	0.283	0.350	0.766	0.398
30.00	0.035	0.471	0.332	0.428	0.871	0.473
35.00	0.053	0.547	0.416	0.520	1.046	0.563
40.00	0.066	0.682	0.461	0.600	1.443	0.643
45.00	0.100	0.781	0.537	0.654	1.746	0.729
50.00	0.104	0.787	0.602	0.729	1.932	0.766
55.00	0.104	0.840	0.619	0.746	2.070	0.848
60.00	0.121	0.891	0.615	0.773	2.176	0.844
65.00	0.131	0.889	0.637	0.785	2.250	0.855
70.00	0.146	0.896	0.633	0.795	2.332	0.854
75.00	0.152	0.857	0.625	0.771	2.414	0.852
80.00	0.154	0.830	0.629	0.762	2.441	0.873
85.00	0.154	0.822	0.613	0.721	2.475	0.834
90.00	0.156	0.801	0.553	0.732	2.484	0.818

TABLE A-15 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN BESIDE A BMP INFANTRY COMBAT VEHICLE

Elevation Deg.	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.039	.204	.184	.246	.463	.279
.10	.043	.232	.172	.238	.490	.270
.20	.049	.223	.188	.252	.471	.283
.30	.039	.238	.174	.242	.459	.268
.40	.055	.221	.178	.266	.459	.297
.50	.047	.221	.168	.242	.492	.268
.60	.043	.240	.182	.246	.467	.262
.70	.035	.219	.182	.258	.457	.273
.80	.044	.229	.162	.254	.441	.268
.90	.041	.236	.184	.242	.443	.268
1.00	.039	.230	.191	.225	.463	.270
2.00	.041	.236	.158	.234	.455	.277
3.00	.029	.240	.170	.254	.445	.291
4.00	.035	.244	.195	.229	.424	.279
5.00	.033	.248	.170	.225	.457	.295
6.00	.031	.252	.195	.236	.447	.291
7.00	.023	.283	.168	.242	.426	.285
8.00	.027	.279	.164	.238	.438	.295
9.00	.021	.287	.176	.250	.451	.305
10.00	.020	.291	.193	.234	.484	.314
15.00	.020	.316	.217	.297	.549	.346
20.00	.025	.359	.264	.303	.660	.379
25.00	.021	.420	.287	.338	.771	.414
30.00	.027	.435	.295	.389	.865	.445
35.00	.045	.445	.326	.404	.949	.477
40.00	.051	.467	.326	.424	1.029	.486
45.00	.061	.518	.354	.438	1.137	.504
50.00	.064	.504	.374	.453	1.211	.514
55.00	.064	.531	.373	.463	1.285	.523
60.00	.074	.557	.367	.479	1.367	.520
65.00	.085	.555	.391	.488	1.398	.545
70.00	.064	.613	.424	.537	1.547	.594
75.00	.071	.650	.475	.576	1.801	.666
80.00	.141	.701	.525	.641	2.090	.732
85.00	.156	.764	.578	.674	2.375	.760
90.00	.160	.553	.732	.4484	2.4484	.819

TABLE A-16 PRESENTED AREAS IN SQUARE FEET FOR PRONE MAN BETWEEN THE TRAILS OF A TOWED HOWITZER

Elevation Deg.	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.063	.354	.273	.385	.621	.441
.10	.066	.345	.260	.387	.639	.422
.20	.070	.359	.281	.402	.627	.434
.30	.059	.389	.262	.385	.621	.410
.40	.070	.361	.275	.404	.631	.419
.50	.074	.367	.260	.383	.654	.415
.60	.064	.389	.277	.395	.633	.414
.70	.055	.354	.262	.418	.602	.447
.80	.070	.389	.279	.410	.590	.410
.90	.063	.371	.283	.395	.592	.424
1.00	.070	.369	.275	.385	.627	.428
2.00	.074	.377	.256	.373	.604	.426
3.00	.051	.385	.264	.395	.576	.443
4.00	.047	.381	.285	.350	.566	.420
5.00	.044	.371	.246	.350	.604	.422
6.00	.039	.365	.260	.352	.600	.402
7.00	.049	.383	.240	.344	.621	.369
8.00	.041	.352	.215	.334	.641	.379
9.00	.037	.340	.217	.344	.660	.369
10.00	.031	.324	.209	.324	.682	.363
15.00	.016	.305	.207	.338	.709	.330
20.00	.002	.313	.232	.340	.703	.318
25.00	.018	.287	.264	.330	.779	.301
30.00	.012	.261	.262	.305	.797	.289
35.00	.020	.295	.252	.307	.859	.264
40.00	.025	.249	.236	.354	.893	.234
45.00	.035	.324	.293	.352	.943	.189
50.00	.035	.277	.299	.348	.971	.205
55.00	.033	.263	.305	.355	.986	.199
60.00	.027	.301	.256	.320	1.059	.168
65.00	.021	.246	.227	.326	1.316	.109
70.00	.018	.197	.205	.342	1.674	.068
75.00	.004	.156	.209	.383	2.037	.023
80.00	.004	.125	.230	.469	2.291	.002
85.00	.006	.092	.204	.502	2.443	0.000
90.00	.000	.000	.137	.562	2.484	0.000

TABLE A-17 PRESENTED AREAS IN SQUARE FEET FOR PRONE PROTECTED MAN

Elevation Deg	Head	Thorax	Abdomen	Pelvis	Legs	Arms
0.00	.020	.110	.084	.123	.216	.149
.10	.021	.120	.078	.121	.227	.145
.20	.027	.113	.085	.127	.217	.150
.30	.019	.122	.078	.122	.215	.144
.40	.026	.113	.080	.134	.217	.157
.50	.024	.114	.077	.122	.230	.142
.60	.022	.122	.082	.127	.220	.140
.70	.019	.113	.081	.133	.212	.151
.80	.024	.119	.081	.130	.207	.143
.90	.022	.119	.063	.124	.209	.145
1.00	.022	.116	.085	.118	.220	.143
2.00	.023	.123	.074	.125	.216	.151
3.00	.017	.127	.080	.139	.212	.161
4.00	.018	.132	.098	.131	.212	.162
5.00	.020	.147	.095	.141	.263	.192
6.00	.017	.168	.121	.161	.285	.196
7.00	.018	.196	.119	.174	.304	.209
8.00	.020	.192	.119	.171	.319	.224
9.00	.018	.201	.126	.180	.333	.225
10.00	.016	.205	.133	.183	.340	.236
15.00	.014	.262	.169	.242	.410	.286
20.00	.014	.319	.220	.281	.519	.344
25.00	.027	.380	.261	.318	.680	.395
30.00	.034	.432	.294	.384	.823	.447
35.00	.053	.470	.346	.429	1.014	.498
40.00	.062	.536	.371	.479	1.196	.537
45.00	.079	.599	.417	.515	1.391	.588
50.00	.084	.614	.454	.566	1.540	.617
55.00	.067	.655	.486	.580	1.660	.661
60.00	.100	.701	.485	.609	1.768	.668
65.00	.112	.698	.507	.622	1.846	.686
70.00	.118	.713	.517	.648	1.967	.690
75.00	.127	.706	.521	.635	2.069	.703
80.00	.135	.702	.540	.650	2.167	.714
85.00	.134	.702	.528	.647	2.244	.713
90.00	.134	.696	.484	.661	2.278	.715

APPENDIX B

COM-GEOM BACKGROUND AND TARGET DESCRIPTIONS

## APPENDIX B

### COM-GEOM BACKGROUND AND TARGET DESCRIPTIONS

The presented area of the prone man in the various protected postures was calculated using the AREA subroutine of the GIFT code.

The GIFT computer code requires a combinatorial geometry (COM-GEOM) target description as input data. The following is a brief introduction to the COM-GEOM technique of target description. Reference 3 gives a detailed account of the COM-GEOM method as required for input to the GIFT computer code.

The COM-GEOM technique utilizes twelve basic geometric solids combined under three set-theory type operations to define the shape and location of each component of a target. A complete COM-GEOM description contains three distinct parts: a solid table, a region table, and a region identification table.

A solid is defined as one of the twelve geometric shapes available for COM-GEOM descriptions. These solids are listed below:

#### Geometric Solids Used in COM-GEOM Descriptions

<u>Symbol</u>	<u>Solid Name</u>
RPP	Rectangular Parallelepiped
BOX	Box
RAW	Right Angle Wedge
ARB	Arbitrary Convex Polyhedron
ARS	Triangular Surfaced Polyhedron
ELL	Ellipsoid of Revolution
SPH	Sphere
RCC	Right Circular Cylinder
REC	Right Elliptical Cylinder
TRC	Truncated Right Circular Cone
TEC	Elliptic Cone
TOR	Torus

The parameters of a solid give its location, size, and orientation within the coordinate system established for the target. Each solid is uniquely numbered and its parameters listed in the solid table.

A region is the space occupied by a single solid or a combination of solids. Solids are combined using the three operations: intersection (+), union (OR), and difference (-). The intersection (+) of two solids is defined as the space in common with both solids. The union (OR) of two solids is defined as the space in either of the solids. The difference (-) of two solids is defined as the space in the first solid but not the second. Figure B-1 is a graphic illustration of these three operations. Any number of solids defined in the solid table may be used to define a region. Each region is uniquely numbered and its defining combination of solids is listed in the region table.

In the region identification table, each region is assigned an identification code number. These code numbers identify each specific region as either a component of the target or as an air space. Space not described as a region is assigned the air space code "01" by the GIFT code. If it is not necessary to describe the inside air of a target, then both inside and outside air will be identified by the "01" space code.

The region identification table, also allows for 40 alpha-numeric characters of descriptive data per region. The solid, region, and region identification tables described above comprise a complete COM-GEOM target description as required for input to the GIFT computer code.

Reference 8 contains a more extensive discussion than that presented above.

Complete COM-GEOM target descriptions of the prone man in all protected postures except the BMP are given in Table B-1 through B-27. The COM-GEOM description of the BMP is given in Reference 9.

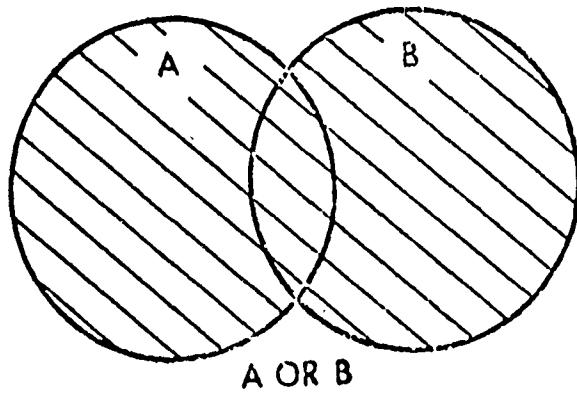
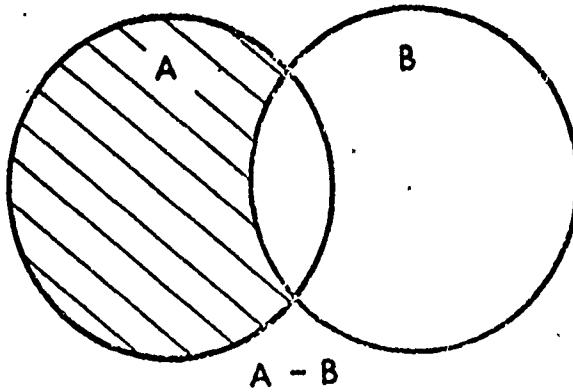
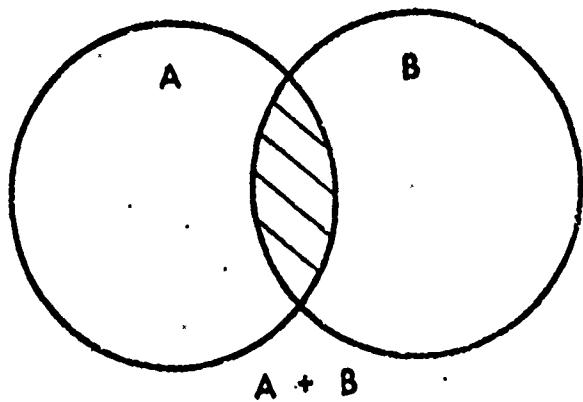


FIGURE B-1 Intersection (+), Difference (-), Union (OR) of Solids

TABLE R-1. SOLID TABLE FOR PRONE MAN IN OPEN

SOLID NUM	TYPE	SOLID PARAMETERS	
1	ELLG	28.9468	4.4488
1	RCX	0.0000	-2.7953
2	ARR8	15.4823	6.1220
2	AFP8	0.0000	-12.2440
3	TEC	15.4823	-6.1220
3	TFC	15.4823	6.1220
3	TRC	8.3170	-5.4921
3	POX	8.3170	5.4921
4	AFP8	8.3170	-5.4921
4	TEC	8.3170	5.4921
4	TFC	0.0807	-6.9488
4	TRC	0.0807	6.9488
5	TEC	0.0807	0.0000
5	TFC	0.0000	-6.9488
5	TRC	1.4570	0.0000
6	TEC	-20.3445	0.0000
6	TFC	0.0000	-4.7692
6	TRC	1.6708	0.0000
7	TEC	22.6949	-4.8229
7	TFC	2.0276	1.7323
8	TRC	22.6949	4.8229
8	POX	2.0276	1.7323
9	POX	30.0300	6.5552
9	POX	0.0000	-13.1104
9	POX	0.0000	5.6688

TABLE A-2. REGION TABLE FOR PRONE MAN IN OPEN

REGION  
NUMBER

REGION COMBINATION DATA	
1	1
2	2
3	3
4	4
5 OR	5OR
6 OR	7

1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	-7	-8	0	0	0	0
4	0	0	0	0	0	0
5 OR	6	0	0	0	0	0
6 OR	7	-10R	R	-10R	9	-1

TABLE F-2. IDENTIFICATION TABLE FOR PHOTOF MAN IN OPEN

POSITION NUMFP	ITFM CONF	SPACE CONF	DESCRIPTION
1	1	C	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS

TABLE R-4. SOLID TABLE FOR PRONE MAN IN A SHALLOW DRAINAGE DITCH

SOLID NUM	TYPE	SOLID PARAMETERS			
1	ELLG	28.9468	0.0000	-7.5512	4.2520
1	0	0.0000	-2.7953	0.0000	0.0000
2	ROX	15.4823	6.1220	-12.0000	0.0000
2	0	0.0000	-12.2440	0.0000	9.2126
3	ARR8	15.4823	-6.1220	-3.1024	15.4823
3	0	15.4823	6.1220	-12.0000	15.4823
3	0	8.3170	-5.4921	-3.1024	8.3170
3	0	8.3170	5.4921	-12.0000	8.3170
4	ARE8	8.3170	-5.4921	-3.1024	8.3170
4	0	8.3170	5.4921	-12.0000	8.3170
4	0	0.0807	-6.9488	-3.9095	0.0807
4	0	0.0807	6.9488	-1.1929	0.0807
5	TEC	0.0807	0.0000	-7.5512	-20.4252
5	0	0.0000	-6.9488	0.0000	0.0000
5	0	1.4570	0.0000	0.0000	0.0000
6	TFC	-20.3445	0.0000	-7.5512	-15.3543
6	0	0.0000	-4.7692	0.0000	0.0000
6	0	1.0708	0.0000	0.0000	0.0000
7	TRC	22.6949	-4.8229	-7.5512	11.5039
7	0	2.0276	1.7323	0.0000	0.0000
8	TFC	22.6949	4.8229	-7.5512	11.5039
8	0	2.0276	1.7323	0.0000	0.0000
9	POX	30.0300	6.5552	-8.7718	0.0000
9	0	0.0000	-13.1164	0.0000	5.6688
10	RPP	-121.2500	121.2501	-11.5000	11.5000
11	RPP	-120.0000	120.0001	-10.5000	10.5000
11	RPP	-120.0000	120.0001	-10.5000	10.5000

TABLE H-5. REGION TABLE FOR PROFILE MAN IN A SHALLOW DRAINAGE DITCH

REGION NUMBER	REGION COMBINATION DATA						
	1	2	3	4	5 OR 6	7	10
1	1	0	0	0	0	0	0
2	2	0	0	0	0	0	0
3	3	-7	-8	0	0	0	0
4	4	0	0	0	0	0	0
5 OR 6	5OR 6	6	0	0	0	0	0
7	7	-10P	8	-10P	9	-1	0
10	-11	0	0	0	0	0	0

TABLE 8-6. IDENTIFICATION TABLE FOR PRONE MAN IN A SHALLOW DRAINAGE DITCH

REGION NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	1	0	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS
7	7	0	DITCH

TABLE K-7. SOLID TABLE FOR PRUNE MAN ALONGSIDE A 16-INCH DIAMETER LOG

SOLID NUM TYPE	SOLID PARAMETERS			
1 FLL	24.9468	0.0000	4.4448	4.2520
1	0.0000	-2.7953	0.0000	0.0000
2 AOX	15.4823	6.1220	0.0000	0.0000
2	0.0000	-17.2440	0.0000	0.0000
3 AHF	15.4823	-6.1220	24.976	21.2126
3	15.4823	6.1220	0.0000	0.0000
3	15.4823	-5.4921	24.976	15.4823
3	15.4823	5.4921	0.0000	0.0000
3	15.4823	-5.4921	24.976	15.4823
4 ARH	8.3170	5.4921	0.0000	8.3170
4	8.3170	-5.4921	24.976	8.3170
4	8.3170	5.4921	0.0000	8.3170
4	8.3170	-6.9488	24.905	0.0000
4	8.3170	6.9488	0.0000	8.3170
5 TEC	0.007	0.0000	40.71	0.007
5	0.007	0.0000	4.4448	-20.4252
5	0.0000	-6.9488	0.0000	0.0000
5	1.4570	0.0000	0.0000	0.0000
6 TFC	-20.3445	0.0000	4.4448	-15.3543
6	0.0000	-4.7692	0.0000	0.0000
6	1.6708	0.0000	0.0000	0.0000
7 THC	22.6946	-4.8224	4.4448	11.5039
7	2.0276	1.7323	0.0000	0.0000
8 TRC	22.6946	4.8224	4.4448	11.5039
8	2.0276	1.7323	0.0000	0.0000
9 WOX	30.0300	6.4552	3.2282	0.0000
9	0.0000	-13.1104	0.0000	6.6688
10 LTC	-120.6000	-14.4448	0.0000	24.0000
10	0.0000	0.0000	0.0000	0.0000
11	0.0000	0.0000	0.0000	0.0000

TABLE R-8. REGION TABLE FOR PRONE MAN ALONGSIDE A 16-INCH DIAMETER LOG

REGION NUMBER	REGION COMBINATION DATA						
1	1	0	0	0	0	0	0
2	2	0	0	0	0	0	0
3	3	-7	-6	0	0	0	0
4	4	0	0	0	0	0	0
5 OR 6	5OR 6	0	0	0	0	0	0
7 OR 8	7 10	-10R 0	8 0	-10R 0	9 0	-1 0	0
7	10	0	0	0	0	0	0

TABEL H-9. IDENTIFICATION TABLE FOR PRONE MAN ALONGSIDE A 16-INCH DIAMETER LOG

REGION NUMBER	ITEM CODE	SPACE CCDF	DESCRIPTION
1	1	0	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS
7	7	0	SIXTEEN INCH DIAMETER LOG

TABLE B-10. SOLID TABLE FOR PRONF MAN ALONGSIDE A BERM

SOLID NUM TYPE	SOLID PARAMETERS			
1 FLLG	28.9468	0.0000	4.4488	4.2520
1	0.0000	-2.7953	0.0000	0.0000
2 FOX	15.4823	6.1220	0.0000	0.0000
2	0.0000	-12.2440	0.0000	0.0000
3 ARF8	15.4823	-6.1220	8.8976	8.8976
3	15.4823	6.1220	0.0000	0.0000
3	8.3170	-5.4921	8.8976	8.8976
3	8.3170	5.4921	0.0000	0.0000
4 ARF8	8.3170	-5.4921	8.8976	8.8976
4	8.3170	5.4921	0.0000	0.0000
4	8.3170	-6.9488	8.0905	8.0905
4	8.0807	6.9488	8.0807	8.0807
5 TFC	0.0807	0.0000	4.4488	-20.4252
5	0.0000	-6.9488	0.0000	0.0000
5	1.4570	0.0000	0.0000	0.0000
6 TEC	-20.3445	0.0000	4.4488	-15.3543
6	0.0000	-4.7692	0.0000	0.0000
6	1.6708	0.0000	0.0000	0.0000
7 TFC	22.6949	-4.8229	4.4488	11.5039
7	2.0276	1.7323	0.0000	0.0000
8 TRC	22.6949	4.8229	4.4488	11.5039
8	2.0276	1.7323	0.0000	0.0000
9 FOX	30.0300	6.5552	3.2282	0.0000
9	0.0000	-13.1104	0.0000	5.6688
10 TOR	0.0000	-170.6390	-500.0000	0.0000
10	2093.9714	1977.0418	0.0000	0.0000
11 TOR	0.0000	-170.6390	-430.0000	0.0000
11	648.9000	643.0940	0.0000	0.0000
12 RFF	-205.0000	205.0000	-375.0000	35.0000
12	-205.0000	205.0000	-375.0000	35.0000
13 GFF	-205.0000	205.0000	35.0000	15.8000
13	-205.0000	205.0000	35.0000	33.5000

TABLE R-11. REGION TABLE FOR PRONE MAN ALONGSIDE A BERM

REGION NUMBER	REGION COMBINATION DATA												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	-7	-5	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CP	50R	6	0	0	0	0	0	0	0	0	0	0	0
6 CR	7	-10H	H	-10R	9	-1	0	0	0	0	0	0	0
7	10	12	0	0	0	0	0	0	0	0	0	0	0
8	11	13	0	0	0	0	0	0	0	0	0	0	0

TABLE F-12. IDENTIFICATION TABLE FOR PRONE MAN ALONGSIDE A BERM

REGION NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	1	0	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS
7	7	0	BERM
8	8	0	BERM

TAULF 4-12. S.C.L.I. TAULF FC = PRET F MAR ALONGSIDE PALLETTED 55-GALLON DRUMS.

SOL IN	NIN	TYFF	SOLIN PARAMETERS
1	FLLC	28.9468	0.0000 4.4488 4.2520
1	0.0000	-2.7953	0.0000 0.0000 3.9370
2	HGX	15.4823	6.1220 0.0000 8.8976
2	0.0000	-12.2440	0.0000 0.0000 0.0000
2	HGX	15.4823	-6.1220 0.0000 9.2126
3	15.4823	-5.4921	8.8976 15.4823 6.1220
3	15.4823	8.3170	0.0000 15.4823 -6.1220
3	8.3170	5.4921	0.0000 8.3170 5.4921
3	8.3170	-5.4921	0.0000 8.3170 -5.4921
4	ADPFC	8.3170	-5.4921 8.8976 5.4921
4	8.3170	5.4921	0.0000 8.3170 -5.4921
4	0.807	-6.9488	8.0905 0.807 6.9488
4	0.807	6.9488	0.807 -6.9488 8.0905
5	TFC	0.0007	0.0000 4.4488 -20.4252
5	0.0000	-6.9488	0.0000 0.0000 0.0000
5	1.4570	0.0000	0.0000 0.0000 2.9528
6	TFC	-20.3445	0.0000 4.4488 -15.3543
6	0.0000	-4.7692	0.0000 0.0000 0.0000
6	1.6709	0.0000	0.0000 0.0000 0.0000
6	22.6649	-4.8229	4.4488 11.5039 0.0000
7	TFC	2.6276	1.7323 0.0000 0.0000 0.0000
7	22.6940	4.8229	4.4488 11.5039 0.0000
7	2.1276	1.7323	0.0000 0.0000 0.0000
7	30.0300	6.5652	3.7227 0.0000 0.0000
7	0.0000	-13.0110	0.0000 5.6688 11.0000
8	WFC	-4.2000	4.9.0001 -5.1.0000 -11.0000
8	-7.5.0000	-1.9.0000	5.0.0000 0.0.0000 36.0000
9	12.0.0000	1.9.0000	0.0.0000 0.0.0000 0.0.0000
9	-2.4.0000	-4.3.0.0000	5.0.0000 0.0.0000 36.0000
10	12.0.0000	0.0.0000	0.0.0000 0.0.0000 0.0.0000
11	-1.2.0.0000	-1.6.0.0000	0.0.0000 0.0.0000 0.0.0000
12	-1.2.0.0000	-1.6.0.0000	0.0.0000 0.0.0000 0.0.0000
13	-1.2.0.0000	-1.6.0.0000	0.0.0000 0.0.0000 0.0.0000
14	-1.2.0.0000	-1.6.0.0000	0.0.0000 0.0.0000 0.0.0000

TABLE R-13. SOLID TABLE FOR PRONE MAN ALONGSIDE PALLETIZED 55-GALLON DRUMS,  
ONE HIGH (CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS		
13		12.0000	0.0000	0.0000
14	PCC	-12.0000	-43.0000	5.0000
14		12.0000	0.0000	0.0000
15	RCC	12.0001	-19.0000	5.0000
15		12.0000	0.0000	0.0000
15		12.0000	0.0000	0.0000
16	RCC	12.0001	-43.0000	5.0000
16		12.0000	0.0000	0.0000
17	RCC	36.0001	-19.0000	5.0000
17		12.0000	0.0000	0.0000
18	PCC	36.0001	-43.0000	5.0000
18		12.0000	0.0000	0.0000

TABLE 4-14. POSITION TAILF CPT PRENE VAN ALONGSIDE PALLETIZED 55-GALLON DRUMS.

POSITION NUMBER	POSITION COMBINATION DATA
1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
3	-7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
5 CP	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
6 CR	7 -10R 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8	11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
9	12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10	13 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
11	14 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
12	15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
13	16 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
14	17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
15	18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

TARLF H-15. IDENTIFICATION TABLE FOR PRONE MAN ALONGSIDE PALLETIZED 55-GALLON DRUMS, ONE HIGH

REGION NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	1	0	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS
7	7	0	PALLET
8	8	0	55-GALLON DRUM
9	9	0	55-GALLON DRUM
10	10	0	55-GALLON DRUM
11	11	0	55-GALLON DRUM
12	12	0	55-GALLON DRUM
13	13	0	55-GALLON DRUM
14	14	0	55-GALLON DRUM
15	15	0	55-GALLON DRUM

TELEGRAPH - SAIL IN TARIFF FROM U.S. & CANADA ON SIDE PALLETTIZED 55-GALLON DRUMS.

SCLIF		SOI IN PARAMETERS	
NUV	TYPE	1	2
1	F1LG	28.9468	0.0000
1	P0X	0.0000	-2.7053
2	P0X	15.4223	6.1220
2	AFFP	0.0000	-12.8440
3	AFFP	15.4823	-6.1220
3	AFFP	15.4223	6.1220
3	AFFP	8.3170	-5.4921
3	AFFP	8.3170	5.4921
4	AFFP	8.3170	-5.4921
4	AFFP	8.3170	5.4921
4	AFFP	0.007	-6.9488
4	AFFP	0.007	6.9488
5	TFC	0.007	0.0000
5	TFC	0.0000	-6.9488
5	TFC	1.4570	0.0000
5	TFC	-20.3445	0.0000
6	TFC	0.0000	-4.7692
6	TFC	1.4704	0.0000
6	TFC	22.6944	-4.4224
7	TFC	2.6276	1.7323
7	TFC	22.6944	4.4488
8	TFC	2.6276	1.7323
8	TFC	30.0300	6.4552
9	TFC	0.0000	-13.1104
9	TFC	-4.4600	4.4601
10	TFC	-22.6944	-14.1100
11	TFC	12.6000	1.6000
11	TFC	-4.4600	-4.3.0000
12	TFC	1.4600	0.6000
13	TFC	-1.4600	-1.4600

TABLE H-16. SOLID TABLE FOR PRONF MAN ALONGSIDE PALLETIZED 55-GALLON DRUMS,  
TWO HIGH (CONTINUED)

SOLID NUM TYPE	SOLID PARAMETERS							
13	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	RCC	-12.0000	-43.0000	5.0000	0.0000	0.0000	0.0000	36.0000
14	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	RCC	12.0001	-19.0000	5.0000	0.0000	0.0000	0.0000	36.0000
15	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	RCC	12.0001	-43.0000	5.0000	0.0000	0.0000	0.0000	36.0000
16	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	RCC	36.0001	-19.0000	5.0000	0.0000	0.0000	0.0000	36.0000
17	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	RCC	36.0001	-43.0000	5.0000	0.0000	0.0000	0.0000	36.0000
18	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	RPP	-48.0000	48.0001	-51.0000	-11.0000	41.0000	46.0000	46.0000
20	RCC	-36.0000	-19.0000	46.0000	0.0000	0.0000	0.0000	36.0000
20	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	RCC	-36.0000	-43.0000	46.0000	0.0000	0.0000	0.0000	36.0000
21	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	RCC	-12.0000	-19.0000	46.0000	0.0000	0.0000	0.0000	36.0000
22	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	RCC	-12.0000	-43.0000	46.0000	0.0000	0.0000	0.0000	36.0000
23	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	RCC	12.0001	-19.0000	46.0000	0.0000	0.0000	0.0000	36.0000
24	RCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	FCC	12.0001	-43.0000	46.0000	0.0000	0.0000	0.0000	36.0000
25	FCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	FCC	36.0001	-19.0000	46.0000	0.0000	0.0000	0.0000	36.0000
26	FCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	FCC	36.0001	-43.0000	46.0000	0.0000	0.0000	0.0000	36.0000
27	FCC	12.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE F-17. REGION TABLE FOR PRONE MAN ALONGSIDE PALLETIZED 55-GALLON DRUMS.  
TWO HIGH

REGION NUMBER	REGION COMBINATION DATA	
1	0	0
2	0	0
3	-7	0
4	0	0
5 OF	6	0
6 OF	-10P	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	16	0
14	17	0
15	18	0
16	19	0
17	20	0
18	21	0
19	22	0
20	23	0
21	24	0
22	25	0
23	26	0
	27	0

TRAILER P-14. IDENTIFICATION TABLE FOR PRONE MAN ALONGSIDE PALLETIZED 55-GALLON DRUMS. TWO HIGH

REF ID. NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	1	0	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS
7	7	0	PALLET
8	8	0	55-GALLON DRUM
9	9	0	55-GALLON DRUM
10	10	0	55-GALLON DRUM
11	11	0	55-GALLON DRUM
12	12	0	55-GALLON DRUM
13	13	0	55-GALLON DRUM
14	14	0	55-GALLON DRUM
15	15	0	55-GALLON DRUM
16	16	0	PALLET
17	17	0	55-GALLON DRUM
18	18	0	55-GALLON DRUM
19	19	0	55-GALLON DRUM
20	20	0	55-GALLON DRUM
21	21	0	55-GALLON DRUM
22	22	0	55-GALLON DRUM
23	23	0	55-GALLON DRUM
24	24	0	55-GALLON DRUM

TABLE F-19. SOLID TABLE FOR PRONF MAN UNDER CULVERT HALF

SOLID NUM TYPE	SOLID PARAMETERS	
1 ELL6	28.9468	0.0000
1	0.0000	-2.7953
2 FOX	15.4823	6.1220
2	0.0000	-12.2440
3 APR8	15.4823	-6.1220
3	15.4823	6.1220
3	8.3170	-5.4921
3	8.3170	5.4921
4 AFF8	8.3170	-5.4921
4	8.3170	5.4921
4	0.007	-6.9488
4	0.007	6.9488
5 TFC	0.007	0.0000
5	0.000	-6.9488
5	1.4570	0.0000
6 TFC	-20.3445	0.0000
6	0.000	-4.7692
6	1.6708	0.0000
7 TFC	22.6949	-4.8279
7	2.0276	1.7323
P TFC	22.6949	4.8279
K	2.0276	1.7323
9 RCX	30.0300	6.5552
9	0.000	-13.1104
10 PCC	-36.0000	0.0000
10	19.0000	0.0000
11 PCC	-36.0000	0.0000
11	18.0000	0.0000
12 FPC	-36.0000	36.0000

TABLE R-20. REGION TABLE FOR PRONE MAN UNDER CULVERT HALF

REGION NUMBER	REGION COMBINATION DATA						
	1	2	3	4	5 OR 50R	6 CR	7
1	0	0	0	0	0	0	0
2	0	0	0	-8	0	0	0
3	-7	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5 OR 50R	6	0	0	0	0	0	0
6 CR	-10P	6	-10R	-10R	9	-1	0
7	-11	-12	0	0	0	0	0

TABLE P-21. IDENTIFICATION TABLE FOR PRONE MAN UNDER CULVERT HALF

REGION NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	1	0	HEAD
2	2	0	THORAX
3	3	0	ABDOMEN
4	4	0	PELVIS
5	5	0	UPPER LEG
6	6	0	ARMS
7	7	0	CULVERT

TABLE 4-22. SOLID TABLE FOR PRONF MAN UNDER M36. 2-1/2 TON TRUCK

SOLID NLM TYPE	SOLID PARAMETERS									
1 TOR	190.0001	42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 TOR	190.0001	-42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3 TOR	24.0001	42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4 TOR	24.0001	-42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5 TOR	24.0001	28.5000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6 TOR	24.0001	-28.5000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7 TOR	-24.0000	42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 TOR	-24.0000	-42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9 TOR	-24.0000	28.5000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 TOR	-24.0000	-28.5000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 TCR	15.5000	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11 TOR	190.0001	47.5000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11 TCR	6.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 TOR	190.0001	42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 TCR	11.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13 TOR	190.0001	-47.5000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13 TCR	6.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14 TOR	190.0001	-42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14 TCR	11.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15 TOR	24.0001	42.0000	20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-14.5000	0.0000
15 TCR	6.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TRUCK #--22. SC-LIN TRUCK FOR PROOF MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

SOLID NUM	TYPE	SOLID PARAMETERS	
16	FCC	24.0001	42.0000
16	FCC	11.0000	0.0000
16	FCC	24.0001	28.5000
17	FCC	11.0000	0.0000
17	FCC	24.0001	-42.5000
18	FCC	6.0000	0.0000
18	FCC	24.0001	-42.0000
19	FCC	11.0000	0.0000
19	RCC	24.0001	-28.5000
20	RCC	11.0000	0.0000
21	FCC	-24.0000	42.5000
21	RCC	6.0000	0.0000
22	RCC	-24.0000	42.0000
22	RCC	11.0000	0.0000
23	RCC	-24.0000	28.5000
23	FCC	11.0000	0.0000
24	FCC	-24.0000	-42.5000
24	FCC	6.0000	0.0000
25	FCC	-24.0000	-42.0000
25	FCC	11.0000	0.0000
26	PCC	-24.0000	-28.5000
26	FCC	11.0000	0.0000
27	RCC	190.0001	38.5000
27	RCC	2.0000	0.0000
28	SPR	190.001	-5.4000
29	RCC	24.0001	28.0000
29	RCC	2.0000	0.0000
30	SFR	24.0001	5.4000
31	FCC	-24.0000	28.0000
31	FCC	2.0000	0.0000

TABLE F-2. SOLID TABLE FCP PRONF MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

SOLID NOM TYPE	SOLID PARAMETERS		
32 SFR	-24.0000	0.0000	20.0000
33 AFH8	197.5001	17.0000	22.0000
33	165.0001	17.0000	26.0000
33	197.5001	14.5000	22.0000
33	165.0001	14.5000	26.0000
34 APER	197.5001	-17.0000	22.0000
34	165.0001	-17.0000	26.0000
34	197.5001	-14.5000	22.0000
34	165.0001	-14.5000	26.0000
35 ADP8	28.3501	19.0000	22.0000
35	-7.5000	19.0000	26.0000
35	28.3501	23.0000	22.0000
35	-7.5000	23.0000	26.0000
36 AKHR	28.3501	-19.0000	22.0000
36	-7.5000	-19.0000	26.0000
36	28.3501	-23.0000	22.0000
36	-7.5000	-23.0000	26.0000
37 AFR8	28.3501	19.0000	30.2000
37	-7.5000	19.0000	34.4000
37	28.3501	23.0000	30.2000
37	-7.5000	23.0000	34.4000
37	28.3501	-19.0000	30.2000
37	-7.5000	-19.0000	34.4000
37	28.3501	-23.0000	30.2000
37	-7.5000	-23.0000	34.4000
38 AFR8	28.3501	19.0000	30.2000
38	-7.5000	19.0000	34.4000
38	28.3501	23.0000	30.2000
38	-7.5000	23.0000	34.4000
38	28.3501	-19.0000	30.2000
38	-7.5000	-19.0000	34.4000
38	28.3501	-23.0000	30.2000
38	-7.5000	-23.0000	34.4000
39 HFP	-44.0000	228.0001	14.5000
40 HFP	-44.0000	224.0001	16.3000
41 LFP	-44.0000	228.0001	14.5000
42 LFP	-44.0000	224.0001	17.0000
43 LFP	-44.0000	224.0001	-14.5000
43	-44.0000	224.0001	-17.0000

TABLE II-22. SOLID TABLE FOR PEGUN MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

SOLID ALM TYPE	SOLID PARAMETERS	
44 FPP	-64.0000	228.0001
45 FPP	209.5001	212.0001
46 PPP	209.5001	212.0001
47 RPP	209.5001	212.0001
48 RPP	-64.0000	-61.5000
49 RPP	-64.0000	-61.5000
50 RPP	-64.0000	-61.5000
51 RPP	82.0001	84.5001
52 PPP	82.0001	84.5001
53 PPP	82.0001	84.5001
54 FPP	226.0001	228.0001
55 PPP	226.0001	227.6251
56 FOX	228.0001	17.0000
56 -P.0000	29.5000	0.0000
57 FOX	227.6381	16.9019
57 -8.0000	29.5000	0.0000
58 FOX	228.0001	-17.0000
58 -8.0000	-29.5000	0.0000
59 FOX	227.6361	-16.9019
59 -8.0000	-29.5000	0.0000
60 PPP	120.0001	220.5001
61 RPP	120.0701	220.4301
62 RPP	120.0001	171.5001
63 RPP	120.0701	171.4301
64 RPP	130.5001	169.5001
65 RPP	165.5001	175.5001
66 RPP	165.5001	175.5001
67 FOX	215.5001	35.0000
67 -14.0000	0.0000	11.0000
68 RPP	176.5001	201.5001

TARIF H-22. 111 TON TANDEM FGU FRONT MAN UNDER M36. 2-1/2 TON TRUCK  
(CONTINUED)

SOLID TYPE	SOLID PARAMETERS
69 FCX	176.5001 35.0000 49.0000 -11.0000 0.0000 -14.0000
69	0.0000 12.0000 0.0000 .0550 0.0000 -.0432
70 FPP	126.0001 165.5501 35.0000 48.0000 20.0000 35.0000
71 FPF	126.0001 165.4801 35.0700 48.0000 20.0700 35.0000
72 FCX	215.5001 -35.0000 38.0000 0.0000 -12.0000 0.0000
72	-14.0000 0.0000 11.0000 -.0432 0.0000 -.0550
73 FPP	176.5001 201.5001 -48.0000 -35.0000 48.9300 49.0000
74 FCX	176.5001 -35.0000 49.0000 -11.0000 0.0000 -14.0000
74	0.0000 -12.0000 0.0000 .0550 0.0000 -.0432
75 FPF	126.0001 165.5501 -48.0000 -35.0000 20.0000 35.0000
76 FPF	126.0001 165.4801 -48.0000 -35.0700 20.0700 35.0000
77 FPF	203.7001 208.5001 -15.8000 15.8000 36.0000 64.0000
78 FPF	166.5001 198.5001 -13.0000 13.0000 35.0000 52.0000
79 FPF	145.5001 166.5001 -10.0000 10.0000 34.0000 44.0000
80 FPF	-74.5000 119.5001 14.5000 17.0000 38.5000 46.5000
81 FPF	-74.5000 119.5001 -17.0000 -14.5000 38.5000 46.5000
82 FPF	-74.5000 119.5001 14.5000 16.3000 39.2000 45.8000
83 FPF	-74.5000 119.5001 -16.3000 -14.5000 39.2000 45.8000
84 FPF	-74.5000 -71.5000 -46.0000 46.0000 46.5000 49.9000
85 FPF	-46.4000 -43.5000 -46.0000 46.0000 46.5000 49.9000
86 FPF	-74.5000 119.5001 14.5000 16.3000 39.2000 45.8000
87 FPF	-74.5000 -71.5000 -46.0000 46.0000 46.5000 49.9000
88 FPF	37.5001 40.5001 -45.0000 46.0000 46.5000 49.9000
89 FPF	65.5001 49.5001 -44.0000 46.0000 46.5000 49.9000
90 FPF	-18.5000 -15.5000 -46.0000 46.0000 46.5000 49.9000
91 FPF	9.5001 12.5001 -45.0000 46.0000 46.5000 49.9000
92 FPF	37.5001 40.5001 -45.0000 46.0000 46.5000 49.9000
93 FPF	65.5001 49.5001 -44.0000 46.0000 46.5000 49.9000
94 FPF	93.5000 66.5001 -46.0000 46.0000 46.5000 49.9000
95 FPF	114.5001 119.5001 -46.0000 46.0000 46.5000 49.9000
96 FPF	-74.2500 -71.7500 -45.0000 46.0000 46.7500 49.6500
97 FPF	-46.2500 -43.7500 -45.0000 46.0000 46.7500 49.6500
98 FPF	-18.2500 -15.7500 -45.0000 46.0000 46.7500 49.6500
99 FPF	4.7501 12.2501 -45.0000 46.0000 46.7500 49.6500

TABLE F-22. SOLID TABLE FOR PRONF MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

SOLID NUM TYPE	SOLID PARAMETERS									
96 RPF	37.7501	40.2501	-46.0000	46.0000	46.7500	49.6500				
97 RPF	65.7500	68.2501	-46.0000	46.0000	46.7500	49.6500				
98 RPF	93.7500	96.2500	-46.0000	46.0000	46.7500	49.6500				
99 RPF	116.7501	119.2501	-46.0000	46.0000	46.7500	49.6500				
100 RPF	-94.5000	119.5001	-47.5000	47.5000	49.9000	50.1000				
101 RPF	-94.5000	119.5001	47.4000	47.6000	50.1000	68.1000				
102 RPF	-94.5000	119.5001	-47.6000	-47.4000	50.1000	68.1000				
103 RPF	119.3001	119.5001	-47.4000	47.4000	50.1000	68.1000				
104 RPF	87.5000	119.5001	-46.0000	-25.0000	20.0000	38.0000				
105 RPF	87.5300	119.4701	-45.9700	-25.0300	20.0300	37.9700				
106 RPF	87.5000	119.5001	-46.0000	-25.0000	20.0000	29.0000				
107 RPF	-112.5000	-94.5000	-47.4000	47.4000	49.8000	50.0000				
108 FLG	29.9468	0.0000	4.4488	4.2520	0.0000	0.0000	3.9370			
109 FOX	0.0000	-2.7953	0.0000	0.0000	0.0000	0.0000	0.8976			
109 FOX	15.4823	6.1220	0.0000	0.0000	9.2126	0.0000	0.0000			
109 FOX	0.0000	-12.2440	0.0000	0.0000	9.2126	0.0000	0.0000			
110 AFHP	15.4823	-6.1220	8.8976	15.4823	6.1220	8.8976				
110 AFHP	15.4823	6.1220	0.0000	15.4823	-6.1220	0.0000				
110	R.3170	-5.4921	R.4976	8.3170	5.4921	8.4976				
110	R.3170	5.4921	0.0000	8.3170	-5.4921	0.0000				
111 AFHP	R.3170	-5.4921	R.4976	8.3170	5.4921	8.4976				
111	R.3170	5.4921	0.0000	8.3170	-5.4921	0.0000				
111	•0808	-6.9448	8.0905	•0808	6.9488	8.0905				
111	•0808	6.9448	•0871	•0808	-6.9488	•8071				
112 TFC	•0808	0.0000	4.4448	-20.4252	0.0000	0.0000				
112	0.0000	-6.9448	0.0000	0.0000	0.0000	0.0000	2.9528			
112	1.4570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
113 TFC	-20.3445	0.0000	4.4448	-15.3543	0.0000	0.0000				
113	0.0000	-4.7652	0.0000	0.0000	0.0000	0.0000	2.0266			
113	1.47102	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			

TARLF E-22. SOLID TARLF FOR PRONE MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

SOLID NUM TYPE	SOLID PARAMETERS				
114 TPC	22.6949	-4.8229	4.4488	11.5039	0.0000
114	2.0276	1.7323	0.0000	0.0000	0.0000
115 TPC	22.6949	4.8229	4.4488	11.5039	0.0000
115	2.0276	1.7323	0.0000	0.0000	0.0000
116 FOX	30.0300	6.5552	3.2282	0.0000	0.0000
116	0.0000	-13.1104	0.0000	5.6688	0.0000

TRAILER H-234 REGIONS TABLE FOR PERSON MAN UNDER M-36. 2-1/2 TON TRUCK

## REGION COMBINATION DATA

TABLT F-23. FF-11N TANL-F FOR PROOF MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

REGION NUMBER	REGION COMBINATION DATA	
	31	32
31	0	0
32	0	0
33	33	0
34	34	0
35	35	0
36	36	0
37	37	0
38	38	0
39	39	0
40	40	0
41	41	0
42	42	0
43	43	0
44	44	0
45	45	0
46	46	0
47	47	0
48	48	0
49	49	0
50	50	0
51	51	0
52	52	0
53	53	0
54	54	0
55	-55	0
56	51	0
57	52	0
58	53	0
59	54	0
60	55	0
61	56	0
62	57	-54
63	58	-55
64	59	-56
65	60	-57
66	61	-58
67	62	-59
68	63	-60
69	64	-61
70	65	-62
71	66	-63
72	67	-64
73	68	-65
74	69	-66
75	70	-67
76	71	-68
77	72	-69
78	73	-70
79	74	-71
80	75	-72
81	76	-73
82	77	-74
83	78	-75
84	79	-76
85	80	-77
86	81	-78
87	82	-79
88	83	-80
89	84	-81
90	85	-82
91	86	-83
92	87	-84
93	88	-85
94	89	-86
95	90	-87
96	91	-88
97	92	-89
98	93	-90
99	94	-91
100	95	-92
101	96	-93
102	97	-94
103	98	-95
104	99	-96
105	100	-97
106	101	-98
107	102	-99
108	103	-100
109	104	-101
110	105	-102
111	106	-103
112	107	-104
113	108	-105
114	109	-106
115	110	-107
116	111	-108
117	112	-109
118	113	-110
119	114	-111
120	115	-112
121	116	-113
122	117	-114
123	118	-115
124	119	-116
125	120	-117
126	121	-118
127	122	-119
128	123	-120
129	124	-121
130	125	-122
131	126	-123
132	127	-124
133	128	-125
134	129	-126
135	130	-127
136	131	-128
137	132	-129
138	133	-130
139	134	-131
140	135	-132
141	136	-133
142	137	-134
143	138	-135
144	139	-136
145	140	-137
146	141	-138
147	142	-139
148	143	-140
149	144	-141
150	145	-142
151	146	-143
152	147	-144
153	148	-145
154	149	-146
155	150	-147
156	151	-148
157	152	-149
158	153	-150
159	154	-151
160	155	-152
161	156	-153
162	157	-154
163	158	-155
164	159	-156
165	160	-157
166	161	-158
167	162	-159
168	163	-160
169	164	-161
170	165	-162
171	166	-163
172	167	-164
173	168	-165
174	169	-166
175	170	-167
176	171	-168
177	172	-169
178	173	-170
179	174	-171
180	175	-172
181	176	-173
182	177	-174
183	178	-175
184	179	-176
185	180	-177
186	181	-178
187	182	-179
188	183	-180
189	184	-181
190	185	-182
191	186	-183
192	187	-184
193	188	-185
194	189	-186
195	190	-187
196	191	-188
197	192	-189
198	193	-190
199	194	-191
200	195	-192
201	196	-193
202	197	-194
203	198	-195
204	199	-196
205	200	-197
206	201	-198
207	202	-199
208	203	-200
209	204	-201
210	205	-202
211	206	-203
212	207	-204
213	208	-205
214	209	-206
215	210	-207
216	211	-208
217	212	-209
218	213	-210
219	214	-211
220	215	-212
221	216	-213
222	217	-214
223	218	-215
224	219	-216
225	220	-217
226	221	-218
227	222	-219
228	223	-220
229	224	-221
230	225	-222
231	226	-223
232	227	-224
233	228	-225
234	229	-226
235	230	-227
236	231	-228
237	232	-229
238	233	-230
239	234	-231
240	235	-232
241	236	-233
242	237	-234
243	238	-235
244	239	-236
245	240	-237
246	241	-238
247	242	-239
248	243	-240
249	244	-241
250	245	-242
251	246	-243
252	247	-244
253	248	-245
254	249	-246
255	250	-247
256	251	-248
257	252	-249
258	253	-250
259	254	-251
260	255	-252
261	256	-253
262	257	-254
263	258	-255
264	259	-256
265	260	-257
266	261	-258
267	262	-259
268	263	-260
269	264	-261
270	265	-262
271	266	-263
272	267	-264
273	268	-265
274	269	-266
275	270	-267
276	271	-268
277	272	-269
278	273	-270
279	274	-271
280	275	-272
281	276	-273
282	277	-274
283	278	-275
284	279	-276
285	280	-277
286	281	-278
287	282	-279
288	283	-280
289	284	-281
290	285	-282
291	286	-283
292	287	-284
293	288	-285
294	289	-286
295	290	-287
296	291	-288
297	292	-289
298	293	-290
299	294	-291
300	295	-292
301	296	-293
302	297	-294
303	298	-295
304	299	-296
305	300	-297
306	301	-298
307	302	-299
308	303	-300
309	304	-301
310	305	-302
311	306	-303
312	307	-304
313	308	-305
314	309	-306
315	310	-307
316	311	-308
317	312	-309
318	313	-310
319	314	-311
320	315	-312
321	316	-313
322	317	-314
323	318	-315
324	319	-316
325	320	-317
326	321	-318
327	322	-319
328	323	-320
329	324	-321
330	325	-322
331	326	-323
332	327	-324
333	328	-325
334	329	-326
335	330	-327
336	331	-328
337	332	-329
338	333	-330
339	334	-331
340	335	-332
341	336	-333
342	337	-334
343	338	-335
344	339	-336
345	340	-337
346	341	-338
347	342	-339
348	343	-340
349	344	-341
350	345	-342
351	346	-343
352	347	-344
353	348	-345
354	349	-346
355	350	-347
356	351	-348
357	352	-349
358	353	-350
359	354	-351
360	355	-352
361	356	-353
362	357	-354
363	358	-355
364	359	-356
365	360	-357
366	361	-358
367	362	-359
368	363	-360
369	364	-361
370	365	-362
371	366	-363
372	367	-364
373	368	-365
374	369	-366
375	370	-367
376	371	-368
377	372	-369
378	373	-370
379	374	-371
380	375	-372
381	376	-373
382	377	-374
383	378	-375
384	379	-376
385	380	-377
386	381	-378
387	382	-379
388	383	-380
389	384	-381
390	385	-382
391	386	-383
392	387	-384
393	388	-385
394	389	-386
395	390	-387
396	391	-388
397	392	-389
398	393	-390
399	394	-391
400	395	-392
401	396	-393
402	397	-394
403	398	-395
404	399	-396
405	400	-397
406	401	-398
407	402	-399
408	403	-400
409	404</	

TABLE R-23. REGION TABLE FOR PULL MAN UNDER M36, 2-1/2 TON TRUCK  
(CONTINUED)

REGION NUMBER	REGION COMBINATION DATA									
	0	-63	-64	0	0	-65	-66	0	0	0
61	0	0	0	0	0	0	0	0	0	0
62	62	-63	-64	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0
67	67	-68	-69	-60	-60	-60	-60	-60	-60	-60
68	68	-69	-70	-60	-60	-60	-60	-60	-60	-60
69	69	-70	-71	-60	-60	-60	-60	-60	-60	-60
70	70	-71	-71	-60	-60	-60	-60	-60	-60	-60
71	0	0	0	0	0	0	0	0	0	0
72	72	72	-73	-60	0	0	0	0	0	0
73	73	73	-74	-60	0	0	0	0	0	0
74	74	74	-75	-60	0	0	0	0	0	0
75	75	75	-76	-60	0	0	0	0	0	0
76	0	0	-41	-44	0	0	0	0	0	0
77	77	77	0	0	0	0	0	0	0	0
78	78	78	0	0	0	0	0	0	0	0
79	79	79	0	0	0	0	0	0	0	0
80	80	80	-82	0	0	0	0	0	0	0
81	81	81	-83	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0
84	84	-92	0	0	0	0	0	0	0	0
85	85	-93	0	0	0	0	0	0	0	0
86	86	-94	0	0	0	0	0	0	0	0
87	87	-95	0	0	0	0	0	0	0	0
88	88	-96	0	0	0	0	0	0	0	0
89	89	-97	0	0	0	0	0	0	0	0
90	90	-98	0	0	0	0	0	0	0	0
91	91	91	0	0	0	0	0	0	0	0

TRUCK #--22. FRIGID TRAILER FOR FREIGHT VAN UNDER #36. 2-1/2 TON TRUCK  
(CONTINUATION)

REF ID	NUMBER	FUNCTION COMBINATION DATA
91	91	-99
92	0	0
93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0
99	0	0
100	100	0
101	101	0
102	102	0
103	103	0
104	104	-105 106
105	105	106 0
106	104	-106 -105
107	107	0 0
108	108	0 0
109	109	0 0
110	110	-114 -115
111	111	0 0
112	CF	1120R 113 0 0
113	OP	114 -1090R 115 -1080P 116 -108

TABLE F-24. IDENTIFICATION TABLE FOR PRONE MAN UNDER M36, 2-1/2 TON TRUCK

REGION NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	600	0	FRONT TIRE LEFT
2	601	0	FRONT TIRE RIGHT
3	602	0	MID-TIRE LEFT
4	603	0	MID-TIRE RIGHT
5	604	0	MID-TIRE L-IN
6	605	0	MID-TIRE R-IN
7	606	0	REAR TIRE LEFT
8	607	0	REAR TIRE RIGHT
9	608	0	REAR TIRE L-IN
10	609	0	REAR TIRE R-IN
11	610	0	FRONT HUB L
12	611	0	FRONT RIM L
13	612	0	FRONT HUB R
14	613	0	FRONT RIM R
15	614	0	MID-HUB L
16	615	0	MID-RIM L
17	616	0	MID-RIM 2 L
18	617	0	MID-HUB R
19	618	0	MID-RIM R
20	619	0	MID-RIM 2 R
21	620	0	REAR HUB L
22	621	0	REAR RIM L
23	622	0	REAR RIM 2 L
24	623	0	REAR HUB R
25	624	0	REAR RIM R
26	625	0	FIRST AXLE
27	626	0	FIRST DIFF
28	627	0	SCND AXLE
29	628	0	SCND DIFF
30	629	0	

1. 111-124. INDIVIDUAL PARTS LIST TABLE FOR MAN INFLATABLE (CONTINUED)

REF ID. NUMBER	ITEM NUMBER	ITEM NUMBER	DESCRIPTION
31	630	0	THIRD AXLE
32	631	0	THIRD DIFF
33	632	0	FRNT SPGL
34	633	0	FRNT SPGR
35	634	0	REAR SPGL
36	635	0	REAR SPGR
37	636	0	PFAR SPG2 L
38	639	0	RFAR SPG2 R
39	900	0	FRAME L
40	901	0	FRAME L
41	902	0	FRAME L
42	903	0	FRAME R
43	904	0	FRAME R
44	905	0	FRAME R
45	906	0	FRAME F
46	907	0	FRAME F
47	908	0	FRAME F
48	909	0	FRAME BACK
49	910	0	FRAME BACK
50	911	0	FRAME BACK
51	912	0	FRAME MID
52	913	0	FRAME MID
53	914	0	FRAME MID
54	915	0	HUMPER CTR U
55	916	0	HUMPER CTR D
56	917	0	HUMPER LFT
57	918	0	INSIDE LFT
58	919	0	HUMPER RGT
59	911	0	INSIDE RGT
60	914	1	HOOD/CAR

TATL F H-74. IDENTIFICATION TABLE FOR PROMN MAN UNDER M36. 2-1/2 TON TRUCK  
 (CONTINUFD)

POSITION NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
61	111	0	INSIDE
62	919	0	CAB TOP
63	111	0	INSIDE
64	111	0	GLASS DUM
65	111	0	GLASS DUM
66	111	0	GLASS DUM
67	920	0	FENDER FRT
68	921	0	FENDER TOP L
69	922	0	FENDER
70	923	0	STEP LEFT
71	111	0	DUMMY
72	924	0	FENDER FRT
73	925	0	FNDR TOP R
74	926	0	FENDER REAR LMID
75	927	0	STEP RIGHT
76	111	0	DUMMY
77	700	0	RADIATOR
78	701	0	MOTOR
79	702	0	TRANSMSN
80	928	0	RED FRAME L
81	929	0	RED FRAME R
82	111	0	DUMMY
83	111	0	DUMMY
84	930	0	CROSS MBR1
85	931	0	CROSS MBR2
86	932	0	CROSS MBR3
87	933	0	CROSS MBR4
88	934	0	CROSS MARS
89	935	0	CROSS MPR6
90	936	0	CROSS MRR7

TABLE F-24. JETT LIFTCRAFT TABLE FOR PINT MAB UNDEF M36. 2-1/2 TON TRUCK  
(CONTINUATION)

EFIGN NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
91	937	0	CROSS MBR8
92	111	0	DUMMY
93	111	0	DUMMY
94	111	0	DUMMY
95	111	0	DUMMY
96	111	0	DUMMY
97	111	0	DUMMY
98	111	0	DUMMY
99	111	0	DUMMY
100	938	0	RED/BODY
101	939	0	SIDE LT
102	940	0	SIDE RT
103	941	0	SIDE FRNT
104	200	0	FUEL TANK (CRITICAL)
105	201	0	FUEL
106	202	0	FUEL TANK (NONCRITICAL)
107	942	0	TAILGATE
108	108	0	HEAD
109	109	0	THORAX
110	110	0	ABDOMEN
111	111	0	PELVIS
112	112	0	UPPER LEG
113	113	0	ARMS

TABLE 4-25. SOLID TABLE FOR PHONE MAN UNDER M114, 155MM TOWED HOWITZER

SOLID NUM TYPE	SOLID PARAMETERS					
1 RCC	66.0272	17.6489	96.1366	-45.1826	-26.0862	-30.1216
1	6.5200	0.0000	0.0000	0.0000	0.0000	0.0000
2 RCC	110.7349	43.4609	125.9416	-44.7077	-25.6120	-29.8050
2	4.8320	0.0000	0.0000	0.0000	0.0000	0.0000
3 RCC	110.7349	43.4609	125.9416	-111.9006	-64.6058	-74.6000
3	3.0500	0.0000	0.0000	0.0000	0.0000	0.0000
4 RCC	66.0272	17.6489	96.1366	-54.1428	-31.2594	-36.0950
4	6.3700	0.0000	0.0000	0.0000	0.0000	0.0000
5 RCC	11.8844	-13.6105	60.0416	-13.0501	-7.5345	-8.7000
5	8.0500	0.0000	0.0000	0.0000	0.0000	0.0000
6 RCC	8.6309	-27.1785	61.8719	7.2000	4.1569	4.8000
6	1.8000	0.0000	0.0000	0.0000	0.0000	0.0000
7 RCC	8.6309	-27.1785	61.8719	7.2000	4.1569	4.8000
7	1.4080	0.0000	0.0000	0.0000	0.0000	0.0000
8 RCC	8.6309	-27.1785	61.8719	7.2000	4.1569	4.8000
8	2.7000	0.0000	0.0000	0.0000	0.0000	0.0000
9 FOX	3.1394	-24.0013	47.3579	-3.0000	-1.7321	-2.0000
9	-3.9837	-2.3000	7.9674	-4.6263	.8.0129	0.0000
10 FOX	-1.394	-25.7334	45.3579	.5000	-.8660	0.0000
10	.9000	.5196	.6000	-.8660	-.5.0000	17.3205
11 FCC	-4.0816	-22.8294	49.3977	-.6000	-.3464	-.4000
11	1.7500	0.0000	0.0000	0.0000	0.0000	0.0000
12 FOX	77.1985	10.2423	83.7936	.7500	-.4330	.5000
12	-11.8451	-6.8798	23.6902	-12.0000	20.7846	0.0000
13 FCC	11.8844	-13.6105	60.0416	8.9601	5.1731	5.9734
13	8.0500	0.0000	0.0000	0.0000	0.0000	0.0000
14 FCC	35.9479	-7.6071	87.6244	36.8252	21.2610	24.5500
14	2.5000	0.0000	0.0000	0.0000	0.0000	0.0000
15 FCC	72.7731	19.739	112.3744	-1.9500	-1.1258	-1.3000
15	2.4068	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE H-25. SOLIN TABLE FOR PRONE MAN UNIFR M114, 155MM TOWED HOWITZER  
(CONTINUATION)

SOLIN NUM	SOLIN TYPE	SOLIN PARAMETERS			
16	RCC	72.7731	18.7539	112.3744	-55.4253
16	RCC	2.8150	0.0000	0.0000	-31.9998
17	RCC	17.3478	-13.2459	75.4244	0.0000
17	RCC	12.8150	0.0000	0.0000	0.0000
18	RCC	17.3478	-13.2459	75.4244	-8.9601
18	RCC	2.5000	0.0000	0.0000	-5.1731
19	RCC	17.3478	-13.2459	75.4244	-16.6001
19	RCC	2.0000	0.0000	0.0000	-10.7388
20	RCC	8.3877	-18.4190	69.4510	0.0000
20	RCC	2.8150	0.0000	0.0000	12.4000
21	RCC	15.3421	-8.8244	74.6038	-8.9601
21	RCC	1.0700	0.0000	0.0000	-8.9601
22	RCC	15.3421	-8.8244	74.6038	-8.9601
22	RCC	6.6600	0.0000	0.0000	-5.1731
23	RCC	15.3421	-8.8244	74.6038	55.4253
23	PCC	1.8675	0.0000	0.0000	0.0000
24	PCC	70.7674	23.1754	111.5538	-1.5000
24	PCC	1.8675	0.0000	0.0000	-0.0000
25	RCC	15.3421	-8.8244	74.6038	55.4253
25	RCC	1.3675	0.0000	0.0000	0.0000
26	RCC	15.3421	-8.8244	74.6038	55.4253
26	RCC	6.6600	0.0000	0.0000	0.0000
27	RCC	15.3421	-8.8244	74.6038	-8.9601
27	PCC	1.8675	0.0000	0.0000	0.0000
28	PCC	6.3820	-13.9975	68.6305	-2.8500
28	PCC	1.9675	0.0000	0.0000	-1.6455
29	RCC	3.5320	-15.6430	66.7305	.7516
29	RCC	1.8675	0.0000	0.0000	.4339
30	PCC	6.3820	-13.9975	68.6305	-2.8500
30	PCC	1.4675	0.0000	0.0000	-1.6455
					0.0000
					0.0000

TABLE I-75. SOLIN TABLE FOR PRONE MAN UNDER M114, 155MM TOWED HOWITZER  
(CONTINUED)

SOLIN NUM.	TYPE	SOLIN PARAMETERS					
31	RCC	6.3820	-13.9975	68.6305	-2.8500	-1.6455	-1.9000
31	RCC	.6600	0.0000	0.0000	0.0000	0.0000	0.0000
32	RCC	89.2985	31.0846	99.1077	-63.7503	-36.8063	-42.5000
32	RCC	2.8125	0.0000	0.0000	0.0000	0.0000	0.0000
32	RCC	89.2985	31.0846	99.1077	-1.2000	-6928	-8000
33	RCC	2.8125	0.0000	0.0000	0.0000	0.0000	0.0000
34	RCC	89.2985	31.0846	99.1077	-63.7503	-36.8063	-42.5000
34	RCC	2.4125	0.0000	0.0000	0.0000	0.0000	0.0000
35	RCC	89.2985	31.0846	99.1077	-63.7503	-36.8063	-42.5000
35	RCC	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	RCC	25.5481	-5.7217	56.6077	-8.9598	-5.1730	-5.9734
36	RCC	2.8125	0.0000	0.0000	0.0000	0.0000	0.0000
37	RCC	25.5481	-5.7217	56.6077	-8.9598	-5.1730	-5.9734
37	RCC	2.4500	0.0006	0.0000	0.0000	0.0000	0.0000
38	RCC	25.5481	-5.7217	56.6077	-8.9598	-5.1730	-5.9734
38	RCC	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	RCC	16.5880	-10.8948	50.6343	-2.8500	-1.6455	-1.9000
39	RCC	2.8125	0.0000	0.0000	0.0000	0.0000	0.0000
40	RCC	13.7380	-12.5403	48.7343	7500	4330	5000
40	RCC	2.8125	0.0000	0.0000	0.0000	0.0000	0.0000
41	PRC	16.5880	-10.8948	50.6343	-2.8500	-1.6455	-1.9000
41	PRC	1.8125	0.0000	0.0000	0.0000	0.0000	0.0000
42	RCC	16.5880	-10.8948	50.6343	-2.8500	-1.6455	-1.9000
42	RCC	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
43	RCC	79.3009	31.0902	94.1077	-16.4063	-9.4722	-10.9375
43	RCC	2.1870	0.0000	0.0000	0.0000	0.0000	0.0000
44	RCC	86.7987	35.4143	94.1077	-16.4063	-9.4722	-10.9375
44	RCC	1.4740	0.0000	0.0000	0.0000	0.0000	0.0000
44	RCC	86.7987	35.4143	94.1077	-16.4063	-9.4722	-10.9375
44	RCC	3R00	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE H-25. SOLID TAHLF FUR PRONF MAN UNDER M114, 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS					
46	RCC	79.2987	31.0841	94.1077	-7500	-4330	-5000
46	RCC	2.1870	0.0000	0.0000	0.0000	0.0000	0.0000
47	PCC	62.8923	21.6119	83.1702	7500	4330	5000
47	PCC	2.1870	0.0000	0.0000	0.0000	0.0000	0.0000
48	RCC	91.2647	27.6789	99.1077	-19.2001	-11.0852	-13.2000
48	RCC	1.1200	0.0000	0.0000	0.0000	0.0000	0.0000
49	RCC	91.2647	27.6789	99.1077	-22.6407	-13.0716	-15.0938
49	RCC	5600	0.0000	0.0000	0.0000	0.0000	0.0000
50	RCC	33.2204	-12.3772	59.4875	35.4036	26.9845	24.5265
50	RCC	9300	0.0000	0.0000	0.0000	0.0000	0.0000
51	AR88	17.6126	-72.8318	56.7900	25.5800	-18.2318	48.9050
51	AR88	25.5800	-18.2318	73.3900	17.6126	-22.8318	73.3900
51	AR88	16.9876	-21.7492	56.7900	24.9550	-17.1492	48.9050
51	AR88	24.9550	-17.1492	73.3900	16.9876	-21.7492	73.3900
52	AR88	25.5800	-18.2318	48.9050	33.8454	-13.4598	40.7295
52	AR88	33.8454	-13.4598	59.4875	25.5800	-18.2318	63.0150
52	AR88	24.9550	-17.1492	48.9050	33.2204	-12.3772	40.7295
52	AR88	33.2204	-12.3772	59.4875	24.9550	-17.1492	63.0150
53	AR88	33.8454	-13.4598	40.7295	55.6250	-13.8853	40.7295
53	AR88	55.6250	-8853	50.3575	33.8454	-13.4598	59.4875
53	AR88	33.2204	-12.3772	40.7295	55.0000	-1973	40.7295
53	ARRA	55.0000	1973	50.3575	33.2204	-12.3772	59.4875
54	ARRA	55.6250	-8853	40.7295	56.7076	-2603	40.7295
54	ARRA	56.7076	-2603	50.3575	55.6250	-8853	50.3575
54	ARRA	44.7750	17.9075	40.7295	45.8576	18.5325	40.7295
54	ARRA	45.8576	18.5325	50.3575	44.7750	17.9075	50.3575
55	ARFR	23.4404	4.5622	40.7295	45.2200	17.1367	40.7295
55	ARFR	45.2200	17.1367	50.3575	23.4404	4.5622	59.4875
55	ARFR	22.9954	5.3320	40.7295	44.7750	17.9075	40.7295
55	ARFR	44.7750	17.9075	50.3575	22.9954	5.3320	59.4875

TABLE F-25. SOLID TAFLF FOR PHONE MAN UNDER M114, 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS					
56	AHFA	15.3550	-5216	4A.9050	23.6204	4.2504	40.7295
56	AHFA	23.6204	4.2504	59.4875	15.3550	-5216	63.0150
56	AHFA	14.7300	5610	48.9050	22.9954	5.3330	40.7295
56	AHFA	22.9919	5.3310	59.4875	14.7300	5610	63.0150
57	AHFA	7.3876	-51216	56.7900	15.3550	-5216	48.9050
57	AHFA	15.3550	-5216	73.3900	7.3876	-5.1216	73.3900
57	AHFA	6.7626	-4.0390	56.7900	14.7300	5610	48.9050
57	AHFA	14.7300	5610	73.3900	6.7626	-4.0390	73.3900
58	RCC	40.9604	3.1766	40.7295	0.0000	0.0000	-7.7000
58	RCC	14.4800	0.0000	0.0000	0.0000	0.0000	0.0000
59	RCC	21.7695	-20.4318	63.0150	-1.4000	2.4249	0.0000
59	RCC	1.5000	0.0000	0.0000	0.0000	0.0000	0.0000
60	RCC	10.9195	-1.6390	63.0150	1.4000	-2.4249	0.0000
60	RCC	1.5000	0.0000	0.0000	0.0000	0.0000	0.0000
61	FCX	19.3446	-21.8318	73.3900	4.2435	2.4500	0.0000
61	FCX	-6250	1.0825	0.0000	0.0000	4.0000	4.0000
62	FOX	8.4946	-3.0390	73.3900	4.2435	2.4500	0.0000
62	FOX	6250	-1.0825	0.0000	0.0000	4.0000	4.0000
63	RCC	22.3445	-21.4277	77.3900	42.5218	24.5500	10.4951
63	RCC	1.9300	0.0000	0.0000	0.0000	0.0000	0.0000
64	RCC	30.2253	-16.8777	79.3351	34.6410	20.0000	8.5500
64	RCC	4.4800	0.0000	0.0000	0.0000	0.0000	0.0000
65	RCC	43.9649	2.6018	92.7551	3.6373	2.1000	.8978
66	RCC	64.6663	3.1223	87.8851	3.6373	2.1000	.8978
66	RCC	3750	0.0000	0.0000	0.0000	0.0000	0.0000
67	RCC	65.7678	3.6428	83.0151	3.6373	2.1000	.8978
67	RCC	3750	0.0000	0.0000	0.0000	0.0000	0.0000
68	RCC	68.5037	5.2223	88.7829	5420	3129	.133R
68	RCC	3.5400	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE F-25. SOLID TAILF FOR PRONE MAN UNDER M114, 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS					
69	PCC	69.0457	5.5352	88.9167	5.2604	3.0371	1.2983
69	FCC	1.0700	0.0000	0.0000	0.0000	0.0000	0.0000
70	FCC	10.3445	-6431	77.3900	42.5218	24.5500	10.4951
70	PCC	11.9300	0.0000	0.0000	0.0000	0.0000	0.0000
71	PCC	18.2253	3.9069	79.3351	34.6410	20.0000	6.5500
71	RCC	4.9800	0.0000	0.0000	0.0000	0.0000	0.0000
72	RCC	51.9648	23.3864	92.7551	3.6373	2.1000	0.8978
72	RCC	3750	0.0000	0.0000	0.0000	0.0000	0.0000
73	PCC	52.8663	23.9069	87.8851	3.6373	2.1000	0.8978
73	RCC	3750	0.0000	0.0000	0.0000	0.0000	0.0000
74	RCC	53.7678	24.4274	83.0151	3.6373	2.1000	0.8978
74	RCC	3750	0.0000	0.0000	0.0000	0.0000	0.0000
75	RCC	56.5037	26.0069	88.7829	*5420	*3129	*1336
75	RCC	3.9800	0.0000	0.0000	0.0000	0.0000	0.0000
76	RCC	57.0457	26.3198	88.9167	5.2604	3.0371	1.2983
76	RCC	1.0700	0.0000	0.0000	0.0000	0.0000	0.0000
77	RCC	40.1292	-9.8318	47.8150	-10.8500	18.7928	0.0000
77	RCC	1.5000	0.0000	0.0000	0.0000	0.0000	0.0000
78	RCC	35.9542	-2.6005	47.8150	-2.5000	4.3301	0.0000
78	RAW	2.5000	0.0000	0.0000	0.0000	0.0000	0.0000
79	RAW	16.5558	-8.0766	48.1986	6.2354	3.6000	-12.4707
79	RCC	25.4251	14.6792	16.9500	2.5000	-4.3301	0.0000
80	RCC	29.9042	7.8784	47.8150	.7500	-1.2990	0.0000
80	RCC	4.5000	0.0000	0.0000	0.0000	0.0000	0.0000
81	RCC	25.0921	2.2134	43.8150	0.0000	0.0000	13.5000
81	FCC	2.5000	0.0000	0.0000	0.0000	0.0000	0.0000
82	FCC	25.0921	2.2134	57.3150	-21.8000	0.0000	0.0000
82	FCC	3570	0.0000	0.0000	0.0000	0.0000	0.0000
83	FCC	3.2921	2.2134	57.3150	-500	0.0000	0.0000
83	FCC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE 4-2c. SOLID TABLE FOR PRONE MAN UNDER M14, 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS	
P4	RCC	9.4195	• 9591      63.0150      -1.2500      2.1651      0.0000
P4	RCC	3.2500	0.0000      0.0000      0.0000      0.0000      0.0000
P5	RCC	8.7945	2.0416      66.2650      0.0000      0.0000      2.8000
P5	P0X	• 8500	0.0000      0.0000      0.0000      0.0000      0.0000
P6	P0X	10.6695	-1.2060      62.5150      0.0000      0.0000      1.5000
P6	P0X	• 2500	-• 4330      0.0000      -4.5899      -2.6500      0.0000
P7	PCC	8.7945	2.0416      69.0650      0.0000      0.0000      8.3000
P7	P0X	1.2750	0.0000      0.0000      0.0000      0.0000      0.0000
P8	P0X	56.7076	-• 2603      40.7295      0.0000      0.0000      3.1000
P8	P0X	-10.6500	18.7928      0.0000      2.5115      1.4500      0.0000
P9	RCC	50.4181	19.4334      40.7295      0.0000      0.0000      9.7000
P9	RCC	• 5000	0.0000      0.0000      0.0000      0.0000      0.0000
C0	RCC	50.4181	19.4334      50.4295      0.0000      0.0000      2.8000
C0	RCC	4.6000	0.0000      0.0000      0.0000      0.0000      0.0000
O1	RCC	50.4492	26.3796      51.8295      -6.0622      -3.5000      0.0000
Q1	RCC	1.4000	0.0000      0.0000      0.0000      0.0000      0.0000
Q2	RCC	44.3870	22.8796      51.8295      -21.3431      -17.5186      2.4855
C2	RCC	• 3600	0.0000      0.0000      0.0000      0.0000      0.0000
Q3	RCC	23.0439	5.3610      54.3150      -1.9000      3.2909      0.0000
Q4	RCC	1.4000	0.0000      0.0000      0.0000      0.0000      0.0000
C4	RCC	21.1439	8.6510      54.3150      -2500      • 4330      0.0000
C4	RCC	5.5000	0.0000      0.0000      0.0000      0.0000      0.0000
C5	RCC	40.9604	3.1766      40.0295      0.0000      0.0000      -4.1900
C5	RCC	14.4800	0.0000      0.0000      0.0000      0.0000      0.0000
C6	RCC	60.7405	-2.1234      35.4395      -25.0801      -14.4800      0.0000
C6	RCC	-14.4800	25.0861      0.0000      0.0000      0.0000      -10.8100
Q7	RCC	53.8123	-6.1224      35.4395      -15.8483      -9.1500      0.0000
Q7	RCC	4.1375	0.0000      0.0000      0.0000      -10.8100      0.0000
C7	RCC	35.7322	15.6466      35.8395      -15.8483      -9.1500      0.0000
C7	RCC	-4.1375	7.1644      0.0000      0.0000      -10.8100      0.0000

TABLE A-25. SOLID TABLE FOR PHONE MAN UNIT P M114, 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS			
99	RCC	50.5851	-17.5414	32.4000	4.1525
99	RCC	2.4800	0.0000	0.0000	0.0000
100	RCC	27.8301	21.8710	32.4000	-4.1525
100	RCC	2.4800	0.0000	0.0000	0.0000
101	RCC	54.2076	-23.8162	34.8800	0.0000
101	RCC	1.0000	0.0000	0.0000	0.0000
102	RCC	24.2076	28.1454	34.8800	0.0000
102	RCC	1.0000	0.0000	0.0000	0.0000
103	RCC	54.7376	-24.734i	32.4000	7.5350
103	RCC	0.8700	0.0000	0.0000	-13.0510
104	RCC	23.6776	29.0633	32.4000	-7.5350
104	RCC	0.8700	0.0000	0.0000	13.0510
105	RCC	54.7376	-24.7341	32.4000	2.4050
105	RCC	9.6900	0.0000	0.0000	-4.1656
106	RCC	23.6776	29.0633	32.4000	-2.4050
106	RCC	9.6900	0.0000	0.0000	4.1656
107	RCC	57.1426	-28.8997	32.4000	5.1300
107	RCC	12.0000	0.0000	0.0000	-8.8854
108	RCC	21.2726	33.2289	32.4000	-5.1300
108	RCC	12.0000	0.0000	0.0000	8.8854
109	RCC	57.1426	-28.8997	32.4000	5.1300
109	RCC	24.0000	0.0000	0.0000	-8.8854
110	RCC	21.2726	33.2290	32.4000	-5.1300
110	RCC	24.0000	0.0000	0.0000	8.8854
111	FOX	57.3505	3.7422	35.8395	-7.7000
111	FOX	0.0000	0.0000	-10.8000	8.9201
112	RCC	59.R224	14.0666i	25.0395	0.0000
112	RCC	3.0000	0.0000	0.0000	0.0000
112	RCC	59.R224	14.0666i	10.5395	0.0000
113	RCC	1.7000	0.0000	0.0000	0.0000

TABLE F-25. SOLID TABLE FOR PHONE MAN UNDER M114. 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS			
114	PCX	70.5186	7.5463	.8000	-10.3923
114	-11.0000	19.0526	0.0000	0.0000	0.0000
115	ARR8	60.7405	-2.1234	25.0295	79.3669
115	79.3669	25.3506	26.0295	60.7405	25.3506
115	60.2405	-1.2574	25.0295	77.5805	-2.1234
115	77.5805	24.3192	26.0295	60.2405	24.3192
116	ARR8	46.2605	22.9566	25.0295	79.3669
116	79.3669	25.3506	26.0295	46.2605	22.9566
116	46.7605	22.0906	25.0295	77.5805	26.0295
116	77.5805	24.3192	26.0295	46.7605	22.0906
117	ARR8	32.7178	-40.9101	18.4595	42.1015
117	42.1015	-22.4398	35.8395	32.7178	-40.9101
117	25.5514	-36.7726	18.4595	37.9640	-15.2734
117	37.9640	-15.2734	35.8395	25.5514	-36.7726
118	APRE	32.4678	-40.4771	18.9595	41.8515
118	41.8515	-22.0068	35.3395	32.4678	-40.4771
118	25.8014	-37.2056	18.9595	38.2140	-15.7065
118	38.2140	-15.7065	35.3395	25.8014	-37.2056
119	ARR8	-31.1152	-151.4715	0.0000	32.7178
119	32.7178	-40.9101	35.8395	-31.1152	-151.4715
119	-38.2816	-147.3340	0.0000	25.5514	-36.7726
119	25.5514	-36.7726	35.8395	-38.2816	-147.3340
120	AFRR	-31.3652	-151.0385	.5000	32.4678
120	32.4678	-40.4771	35.3395	-31.3652	-151.0385
120	-38.0316	-147.7670	.5000	25.8014	-37.2056
120	25.8014	-37.2056	35.3395	-38.0316	-147.7670
120	F0X	-31.1152	-151.4715	0.0000	-7.001
121	F0X	0.0000	0.0000	7.2000	-12.1244
121	4.0C83	-151.2215	.5000	-6.7501	4.1375
122	4.0C83	0.0000	0.0000	6.2000	-11.6914
122				-6.3004	3.6375

TABLE F-25. SOLID TABLE FOR PHONE MAN UNIFR MIL4, 155MM TOWED HOWITZER  
(CONTINUED)

SOLID NUM	SOLID TYPE	SOLID PARAMETERS
123	RAW	-22.1952 -156.6216 0.0000 -7.0001 -12.1244 0.0000
123		0.0000 0.0000 -16.8000 -25.0604 14.4065 0.0000
124	AFP8	-1.3411 18.0816 18.4595 19.3465 16.9730 18.4595
124		19.3465 16.9730 35.8395 -1.3411 18.0816 35.8395
124		-1.3411 9.8066 18.4595 23.4840 9.8066 18.4595
124		23.4840 9.8066 35.8395 -1.3411 9.8066 35.8395
125	AFH8	-1.0911 17.6486 18.9595 19.5965 16.5400 18.9595
125		18.6565 16.5400 35.3395 -1.0911 17.6486 35.3395
125		-1.5911 10.2396 18.9595 23.2340 10.2397 18.9595
125		23.2340 10.2397 35.3395 -1.5911 10.2396 35.3395
126	AFP8	-129.0066 18.0813 0.0000 -1.3411 18.0816 18.4595
126		-1.3411 18.0816 35.8395 -129.0066 18.0813 7.2000
126		-129.0066 9.8063 0.0000 -1.3411 9.8066 18.4595
126		9.8066 10.2397 35.8395 -129.0066 9.8063 7.2000
127	AFB8	-128.7566 17.6483 .5000 -1.0911 17.6486 18.9595
127		-1.0911 17.6486 35.3395 -128.7566 17.6483 6.7000
127		-129.2566 10.2393 .5000 -1.5911 10.2396 18.9595
127		-1.5911 10.2396 35.3395 -129.2566 10.2393 6.7000
128	POX	-129.0066 18.0813 0.0000 -14.0001 0.0000 0.0000
128		0.0000 0.0000 7.2000 0.0000 -8.2750 0.0000
129	POX	-129.0066 17.5113 .5000 -13.5001 0.0000 0.0000
129		0.0000 0.0000 6.2000 0.0000 -7.2750 0.0000
130	PAW	-129.0067 28.3814 0.0000 -14.0001 0.0000 0.0000
130		0.0000 0.0000 -16.8000 -.0538 -28.9062 0.0000
131	AFH8	56.8253 -26.3463 60.1150 60.2583 -26.0963 60.1150
131		56.0148 -28.5463 80.1150 55.5817 -28.7963 80.1150
131		50.8253 -10.7578 60.1150 51.2583 -10.5078 60.1150
131		47.0148 -12.9578 80.1150 46.5817 -13.2078 80.1150
132	AFH8	57.8402 -12.3041 40.7295 58.2732 -12.0581 40.7295
132		53.6833 -14.7091 60.1150 53.2503 -14.9581 60.1150

## TABLE H-75. SOLID TABLE FOR PHONE MAN UNREP M114, 155MM. TOWED HOWITZER (CONTINUED)

SOLID PARAMETERS		NUM TYPE		SOLID PARAMETERS		NUM TYPE	
132		52.3402	-2.7818	40.7295	52.732	-2.5318	40.7295
132		48.1833	-5.1818	60.1150	47.7503	-5.4318	60.1150
133	APP8	24.8253	34.2755	60.1150	25.2583	34.5255	60.1150
133		21.0148	32.0755	80.1150	20.5817	31.8255	80.1150
133		33.8253	18.6870	60.1150	34.2583	18.9370	60.1150
133		30.0148	16.4870	80.1150	29.5817	16.2370	80.1150
134	APP	35.9902	25.5373	40.7295	36.4232	25.7873	40.7295
134		31.8333	23.1373	60.1150	31.4003	22.8873	60.1150
134		41.4902	16.0110	40.7295	41.3232	16.2610	40.7295
134		37.3333	13.6110	60.1150	36.9003	13.3610	60.1150
135	RCC	10.9195	-1.6390	63.0150	-1.5000	2.5981	0.0000
135		1.5000	0.0000	0.0000	0.0000	0.0000	0.0000
136	ELL6	28.9468	0.0000	4.4488	4.2520	0.0000	0.0000
136		0.0000	-2.7653	0.0000	0.0000	0.0000	3.9370
137	FOX	15.4823	6.1220	0.0000	0.0000	0.0000	8.8976
137		0.0000	-12.2440	0.0000	9.2126	0.0000	0.0000
138	ARH8	15.4423	-6.1220	8.8976	15.4823	6.1220	8.8976
138		15.4823	6.1220	0.0000	15.4823	-6.1220	0.0000
138		8.3170	-5.4921	8.8976	8.3170	-5.4921	8.8976
138		8.3170	5.4921	0.0000	8.3170	-5.4921	0.0000
138		8.3170	5.4921	0.0000	8.3170	-5.4921	0.0000
139	APP8	8.3170	-5.4921	0.0000	8.3170	-5.4921	0.0000
139		8.3170	5.4921	0.0000	8.3170	-5.4921	0.0000
139		8.3170	5.4921	0.0000	8.3170	-5.4921	0.0000
139		0.0000	-6.0488	8.0905	0.0807	6.9488	8.0905
139		0.0000	6.0488	8.071	0.0807	-6.9488	8.071
140	TEC	0.0807	0.0000	4.44488	-20.4252	0.0000	0.0000
140		0.0000	-6.0488	0.0000	0.0000	0.0000	2.9528
140		1.4570	0.0000	0.0000	0.0000	0.0000	0.0000
141	TFC	-20.3445	0.0000	4.4488	-15.3543	0.0000	0.0000
141		0.0000	-4.7692	0.0000	0.0000	0.0000	2.0266
141		1.6704	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE H-2c. SOLID TABLE FOR PHONE MAN UNDER MIL4. 155MM TOWED HOWITZER.  
(CONTINUED)

SOLID NUM TYPE	SOLID PARAMETERS					
142 TFC	22.6946	-4.8229	4.4484	11.5039	0.0000	2.7165
142	2.0276	1.7323	0.0000	0.0000	0.0000	0.0000
143 TFC	22.6949	4.8229	4.4484	11.5039	0.0000	2.7165
143	2.0276	1.7323	0.0000	0.0000	0.0000	0.0000
144 PCX	30.0300	6.5552	3.2282	0.0000	0.0000	0.0000
144	0.0000	-13.1104	0.0000	5.6688	0.0000	5.6694

TABLE F-26. REGION TABLE FOR PROOF MAN UNDER M114, 155MM TOWED HOWITZER

REGION NUMBER	REGION COMBINATION DATA											
	1 OR	2	-1	-30R	4	-2	-3	-13	0	0	0	0
2	3	-9	0	0	0	0	0	0	0	0	0	0
3	1	-4	-13	0	0	0	0	0	0	0	0	0
4	5	-3	-6	-9	-13	-28	-39	0	0	0	0	0
5	6	-7	0	0	0	0	0	0	0	0	0	0
6	7	-8	0	0	0	0	0	0	0	0	0	0
7	8	0	0	0	0	0	0	0	0	0	0	0
8 CR	9OR	100R	11	0	0	0	0	0	0	0	0	0
9 OR	15	160R	16	-14	-18	-170R	17	-19	-16	0	0	0
	-200R	17	20	0	0	0	0	0	0	0	0	0
10	14	-15	-18	0	0	0	0	0	0	0	0	0
11 CR	180R	19	-20	0	0	0	0	0	0	0	0	0
12 OR	23	240R	23	-25	-270R	27	-21	-23	-28	0	0	0
CR	28	-30	-270P	28	29	0	0	0	0	0	0	0
13 OR	25	-26	-24	-270R	21	-22	-23	-280R	30	0	0	0
	-31	-27	-29	0	0	0	0	0	0	0	0	0
14 CR	26	-240R	220R	31	-29	0	0	0	0	0	0	0
15 OR	32	330P	32	-34	-43	-79	-360R	36	-37	0	0	0
	-32	-39	-790R	39	-41	-36	-790R	39	40	0	0	0
16 OR	34	-33	-35	-360P	37	-38	-32	-390R	41	0	0	0
	-42	-40	-36	0	0	0	0	0	0	0	0	0
17 CR	35	-330R	360R	42	-40	0	0	0	0	0	0	0
18 OR	13	-3	-17	-27	-36	0	0	0	0	0	0	0
19 CF	43	460R	43	-440P	43	47	0	0	0	0	0	0
20	44	-46	-45	-47	0	0	0	0	0	0	0	0
21	45	-46	-47	0	0	0	0	0	0	0	0	0
22 OR	48	-320R	400P	50	-68	0	0	0	0	0	0	0
23 CP	51	-590E	52	-500F	53	-50	-770R	57	540R	55	0	0
	-82	-80	-81	-770L	56	-820R	57	-60	-135	0	0	0
OR	54	-132	-134	0	0	0	0	0	0	0	0	0

TABLE F-26. REGION TABLE FOR PHONE MAN UNDER MIL4, 155MM TOWED HOWITZER  
(CONTINUED)

REGION NUMBER	REGION COMBINATIONS DATA
24	61 -63 -51 0 0 0
25	62 -70 -57 0 0 0
26 OF	630R 640R 650R 660R 670R 68
27 CR	700R 710R 720F 730R 740R 75
28	12 -1 -16 -23 -32 -43
29	59 -13 0 0 0 0
30	60 -13 -135 0 0 0
31 OF	770R 78 0 0 0 0
32	135 0 0 0 0 0
33	79 -78 0 0 0 0
34	80 -77 0 0 0 0
35	81 -82 -80 -80 -80 -80
36	82 0 0 0 0 0
37	83 -82 0 0 0 0
38	86 -57 -135 0 0 0
39 OF	84 -1350P 850P 87 0 0
40	88 -58 -89 -54 0 0
41	89 -90 -58 0 0 0
42	90 -91 -54 -55 0 0
43	91 -92 0 0 0 0
44	92 -93 -56 0 0 0
45	93 -56 0 0 0 0
46	94 -93 0 0 0 0
47	95 -58 -96 -97 -98 0
48	96 -97 -98 -111 -115 0
49	97 -99 -117 0 0 0
50	98 -100 -124 0 0 0
51	99 -101 -103 0 0 0
52	100 -102 -105 0 0 0

114

TABLE H-26. DESIGN TABLE FOR FRONT PLATE UNDER M14 • 155MM TOWED HOWITZER  
(CONTINUATION)

SECTION NUMBER		SECTION COMBINATIONS DATA	
53	103	0	0
54	104	0	0
55	105	-103	-107
56	106	-104	-106
57	107	-103	0
58	108	-104	0
59	109	-107	0
60	110	-108	0
61	111	-115	-116
62	112	-113	0
63	113	-114	0
64	114	0	0
65	OR	1150R	116
66	OR	117	-118
67	OR	1180R	1200R
68	CF	124	-125
69	CR	1250R	1270P
70	123	0	0
71	130	0	0
72	101	0	0
73	102	0	0
74	H	1310R	132
75	H	1330D	134
76		136	0
77		137	0
78		138	-142
79		126	0
80		1400D	161

TABLE H-26. REGION TABLE FOR PRONF MAN UNDER MILA, 155MM TOWED HOWITZER  
(CONTINUED)

REGION NUMBER	REGION COMBINATION DATA					
81 CR 147	-1360P	143	-1360R	144	-136	0

TABLE F-27. IDENTIFICATION TABLE FOR PROOF MAN UNDER M114, 155MM TOWED HOWITZER

REFERENCE NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
1	400	0	GUN TUBE
2	0	2	AIR, GUN TUBE
3	401	0	COVER, GUN TUBE
4	402	0	REECH RING
5	403	0	COUNTERBALANCE, OUTER
6	404	0	COUNTERBALANCE, INNER
7	405	0	COUNTERBALANCE, ROD
8	406	0	REECHBLOCK CARRIER
9	500	0	RECUPERATOR, OUTER
10	501	0	RECUPERATOR, GAS CHAMBER
11	502	0	RECUPERATOR, OIL
12	503	0	COUNTERRECOIL, OUTER
13	504	0	COUNTERRECOIL, OIL
14	505	0	COUNTERRECOIL, ROD
15	506	0	RECOIL, OUTER
16	507	0	RFOIL, OIL
17	508	0	RECOIL, ROD
18	300	0	CRADLE
19	509	0	REFPENISHER, OUTER
20	510	0	REFPENISHER, INNER
21	511	0	REFPENISHER, ROD
22	512	0	VARIABLE RECOIL ASY
23	301	0	TOP CARRIAGE
24	302	0	FUILLIFRATOR BRACKET, RIGHT
25	303	0	FUILLIFRATOR BRACKET, LEFT
26	304	0	FUILLIFRATOR TOP RIGHT
27	305	0	FUILLIFRATOR TOP LEFT
28	306	0	YOKÉ
29	307	0	TRAIL IOM, RIGHT
30	308	0	TRAIL IOM, LEFT

TAULF F-27. IDENTIFICATION TAULF FOR PERSONNEL UNDER M114. 155MM TOWED HOWITZER  
 (CONTINUE)

PIECE NUMBER	ITEM CODE	SPACE CODE	DESCRIPTION
31	309	0	ELEVATING PINION AND SHAFT
32	310	0	TEL MOUNT BRACKET
33	311	0	ELEVATING ARC
34	312	0	ELEVATING WORM WHEEL
35	313	0	ELEVATING WORM GEAR
36	314	0	ELEVATING WHEEL SHAFT
37	315	0	ELEVATING WHEEL
38	316	0	TELESCOPE MOUNT BRACKET
39	317	0	TELESCOPE + PANORAMIC SCOPE
40	318	0	TRaversing ARC
41	319	0	TRaversing PINION
42	320	0	TRaversing WORM WHEEL
43	321	0	TRaversing WORM GEAR
44	322	0	TRaversing MECH SHAFT
45	323	0	TRaversing WHEEL ROD
46	324	0	TRaversing WHEEL
47	100	0	ROTOM CARRIAGE
4P	101	0	ROTOM CARRIAGE
49	102	0	TRAIL HOUSING. RIGHT
50	103	0	TRAIL HOUSING. LEFT
51	104	0	AXLE HOUSING RIGHT
52	105	0	AXLE HOUSING LEFT
53	106	0	AXLF. RIGHT
54	107	0	AXLE. RIGHT
55	108	0	Brake DRUM. RIGHT
56	109	0	Brake DRUM. LEFT
57	110	0	WFFL. RIGHT
58	125	0	WFFL. LEFT
59	112	0	TIRE. RIGHT
60	113	0	TIRE. LEFT

TABLE A-27. IDENTIFICATION TABLE FOR PROOF MAN UNDER M114, 155MM TOWED HOWITZER  
(CONTINUED)

REGION NUMBER	ITEM CODE	SPACF CDF	DESCRIPTION
61	114	0	FIRING JACK BRACKET
62	115	0	FIRING JACK
63	116	0	FIRING JACK PLUNGER
64	117	0	FIRING JACK FLOAT
65	118	0	TRAVELING LOCK
66	119	0	TRAIL, RIGHT
67	0	4	AIR, TRAIL RIGHT
68	120	0	TRAIL, LEFT
69	0	4	AIR, TRAIL LEFT
70	121	0	SPADE, RIGHT
71	122	0	SPADE, LEFT
72	123	0	HANDBRAKE, RIGHT
73	124	0	HANDBRAKE, LEFT
74	325	0	SHIELD, RIGHT
75	326	0	SHIELD, LEFT
76	76	0	HEAD
77	77	0	THORAX
78	78	0	ABDOMEN
79	79	0	PELVIS
80	80	0	UPPER LEG
81	H1	0	ARMS

DISTRIBUTION LIST

<u>No. of Copies</u>	<u>Organization</u>	<u>No. of Copies</u>	<u>Organization</u>
12	Commander Defense Technical Information Ctr ATTN: TCA Cameron Station Alexandria, VA 22314	1	Commander US Army Materiel Development & Readiness Command ATTN: DRCDE-R 5001 Eisenhower Avenue Alexandria, VA 22333
1	Commander US Army Materiel Development & Readiness Command ATTN: DRCCP 5001 Eisenhower Avenue Alexandria, VA 22333	1	Commander US Army Materiel Development & Readiness Command ATTN: DRCPA-P 5001 Eisenhower Avenue Alexandria, VA 22333
1	Commander US Army Materiel Development & Readiness Command ATTN: DRCDE-F 5001 Eisenhower Avenue Alexandria, VA 22333	1	Commander US Army Materiel Development & Readiness Command ATTN: DRCDE-D 5001 Eisenhower Avenue Alexandria, VA 22333
1	Commander US Army Materiel Development & Readiness Command ATTN: DRCRE-I 5001 Eisenhower Avenue Alexandria, VA 22333	1	Commander US Army Materiel Development & Readiness Command ATTN: DRCBSI-L 5001 Eisenhower Avenue Alexandria, VA 22333
1	Commander US Army Materiel Development & Readiness Command ATTN: DRCPA-S 5001 Eisenhower Avenue Alexandria, VA 22333	1	Commander US Army Materiel Development & Readiness Command ATTN: DRCBSI-D 5001 Eisenhower Avenue Alexandria, VA 22333
1	Commander US Army Materiel Development & Readiness Command ATTN: DRCQA 5001 Eisenhower Avenue Alexandria, VA 22333	1	Commander US Army Armament Research & Development Command ATTN: Technical Library Dover, NJ 07801

DISTRIBUTION LIST- continued

<u>No. of Copies</u>	<u>Organization</u>	<u>No. of Copies</u>	<u>Organization</u>
1	Commander US Army Armament Research & Development Command ATTN: DRDAR-LCS-E (Dr. S. Einbinder) Dover, NJ 07801	1	Commander US Army Electronics R&D Command ATTN: DRDEL-AP-0A 2800 Powder Mill Road Adelphi, MD 20783
1	Commander US Army Armament Research & Development Command ATTN: DRDAR-SCS-M (G. Gaydos) Dover, NJ 07801	1	Commander US Army Test & Evaluation Command ATTN: STEDP-MT-1 Dugway Proving Ground, UT 84022
1	Commander US Army Armament Materiel Readiness Command ATTN: DRSAR-SA Rock Island, IL 61299	1	Commander US Army Aviation R&D Command ATTN: DRDAV-BC PO Box 209 St. Louis, MO 63166
1	Commander US Army Armament Materiel Readiness Command ATTN: Technical Library Rock Island, IL 61299	1	Commander US Army Troop Support & Aviation Materiel Readiness Command ATTN: DRSTS-F 4300 Goodfellow Blvd. St. Louis, MO 63120
1	Commander US Army Armament Materiel Readiness Command ATTN: DRSAR-PE (H. Michels) Rock Island, IL 61299	1	Commander US Army Electronics R&D Command ATTN: DRSEL-SA FT Monmouth, NJ 07703
1	Commander Harry Diamond Laboratories ATTN: DELHD-SAB 2800 Powder Mill Road Adelphi, MD 20783	1	Commander US Army Natick R&D Command ATTN: DRDNA-0 Natick, MA 01760
1	Commander US Army Concepts Analysis Agency ATTN: MOCA-WGG (A. Williams) 8120 Woodmont Avenue Bethesda, MD 20014	1	Director US Army TRADOC Systems Analysis Activity ATTN: ATAA-SL White Sands Missil Rg, NM 88002

DISTRIBUTION LIST - continued

<u>No. of Copies</u>	<u>Organization</u>	<u>No. of Copies</u>	<u>Organization</u>
1	Director US Army TRADOC Systems Analysis Activity ATTN: ATAA-T White Sands Ms1 Rg, NM 88002	1	Commander US Army Combat Developments Experimentation Command ATTN: ATEC-PPA-M FT Ord, CA 93941
1	Commander US Army Tank-Automotive R&D Command ATTN: DRDTA-UL (Tech Lib) Warren, MI 48090	2	Commandant US Army Field Artillery School ATTN: ATSF-CD FT Sill, OK 73503
1	Commander US Army Tank-Automotive R&D Command ATTN: DRDTA-V Warren, MI 48090	1	Commandant US Army Field Artillery School ATTN: ATSF-CD-MS (L. Minton) FT Sill, OK 73503
2	Commander US Army Mobility Equipment R&D Command ATTN: DRDME-O FT Belvoir, VA 22060	1	Commandant US Army Field Artillery School ATTN: ATSF-G-FD (CPT Gido) FT Sill, OK 73503
2	Chief Defense Logistics Studies Information Exchange US Army Logistics Mgn Ctr ATTN: DRXMC-D FT Lee, VA 23801	2	Commandant US Army Infantry School ATTN: ATSH-CD FT Benning, GA 31905
1	Commander US Army Training & Doctrine Comd ATTN: ATCD-CF FT Monroe, VA 23651	1	Commandant US Army Infantry School ATTN: ATSH-CD-0A (CPT D. George) FT Benning, GA 31905
1	Commander US Army Training & Doctrine Comd ATTN: ATCD-CM FT Monroe, VA 23651	1	Commandant US Army Armor Center ATTN: ATZK-CD-MS (M. Falkovich) FT Knox, KY 40121
		1	Commandant US Army Armor Center ATTN: ATSB-WPG FT Knox, KY 40121

DISTRIBUTION LIST - continued

<u>No. of Copies</u>	<u>Organization</u>	<u>No. of Copies</u>	<u>Organization</u>
1	Commander Naval Surface Weapons Center ATTN: Code DG-11 (Dr. T. Goswick) Dahlgren, VA 32542	1	Commander Marine Corps Tactical Systems Support Activity ATTN: Chief, MTACCS Test Division Camp Pendleton, CA 92055
1	Commander Naval Surface Weapons Center ATTN: Code DG-14 (G. Hornbaker) Dahlgren, VA 32542		<u>Aberdeen Proving Ground, MD</u>
1	Commander Naval Weapons Center ATTN: SSVPO (B. Ruff) China Lake, CA 93555	1	Commander, USATECOM ATTN: DRSTE Bldg. 314
1	Commander-In-Chief, Pacific ATTN: Code J-77, Box 13 Camp H.M. Smith, Hawaii 96861	1	Commander, USATECOM ATTN: DRSTE-CS-A Bldg. 314
1	Director OSU ATTN: G. Spradling PO Box 1925 Eglin AFB, FL 32542	1	Director, USABRL ATTN: STINFO Branch Bldg. 305
1	Director OSU ATTN: A. Peebles PO Box 1925 Eglin AFB, FL 32542	1	Director, USABRL ATTN: B. Reichard Bldg. 394
1	Commander AFATL ATTN: DLYW (R. Jones) Eglin AFB, FL 32542	1	Director, USABRL ATTN: DRDAR-BLL-FT (C. Lebegern)
1	Reliability Analysis Center ATTN: Mr. I.L. Krulac Griffiss AFB, NY 13441	2	Director, USABRL ATTN: DRDAR-BLV (J. Matts, M. Danish)
1	US Military Academy Department of Mathematics West Point, NY 10996	1	Director, USAHEL Bldg. 520